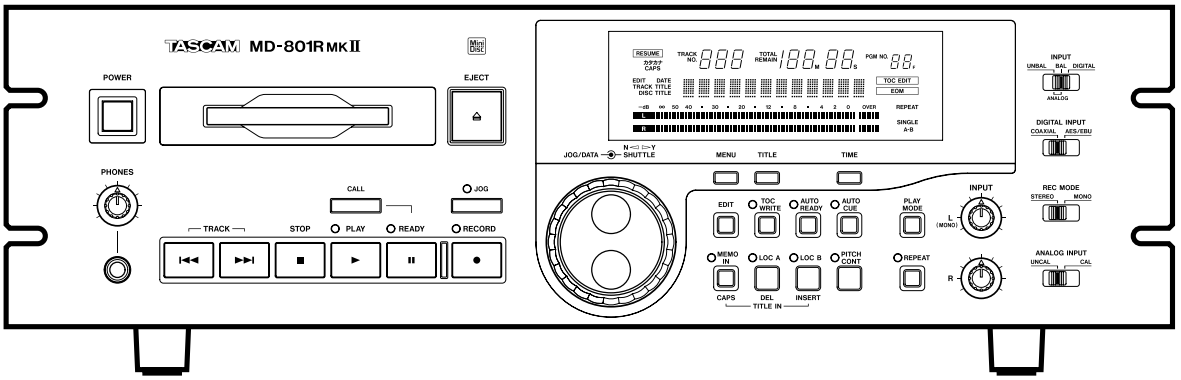
D00414800A

TASCAM
TEAC Professional Division

MD-801RMKII/ MD-801PMKII

MD Recorder/Player



OWNER'S MANUAL

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons..

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT (for U.K. Customers)

DO NOT cut off the mains plug from this equipment.
If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

If this product is not provided with a mains plug, or one has to be fitted, then follow the instructions given below:

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	**:**	EARTH
BLUE	**:**	NEUTRAL
BROWN	**:**	LIVE

WARNING: This apparatus must be earthed.

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

When replacing the fuse only a correctly rated approved type should be used and be sure to re-fit the fuse cover.

IF IN DOUBT — CONSULT A COMPETENT ELECTRICIAN.

For U.S.A

TO THE USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residental area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION
Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

For the consumers in Europe

WARNING
This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Pour les utilisateurs en Europe

AVERTISSEMENT
Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

Für Kunden in Europa

Warnung
Dies is eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen versursachen ; in diesem Fall kann vom Betrieber verlang werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

IMPORTANT SAFETY INSTRUCTIONS

CAUTION:

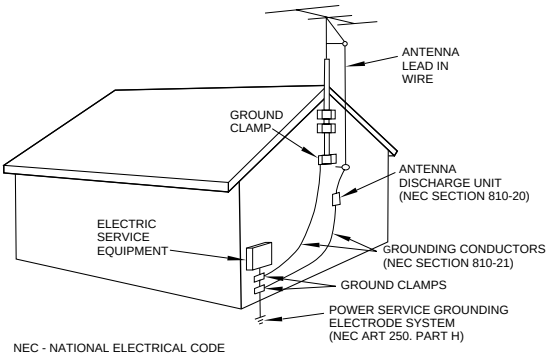
- **Read all of these Instructions.**
- **Save these Instructions for later use.**
- **Follow all Warnings and Instructions marked on the audio equipment.**

1) Read Instructions — All the safety and operating instructions should be read before the product is operated.
2) Retain Instructions — The safety and operating instructions should be retained for future reference.
3) Heed Warnings — All warnings on the product and in the operating instructions should be adhered to.
4) Follow Instructions — All operating and use instructions should be followed.
5) Cleaning — Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6) Attachments — Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7) Water and Moisture — Do not use this product near water — for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
8) Accessories — Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9) A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

10) Ventilation — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11) Power Sources — This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12) Grounding or Polarization — This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
13) Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
14) Outdoor Antenna Grounding — If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

"Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Example of Antenna Grounding as per National Electrical Code, ANSI/NFPA 70

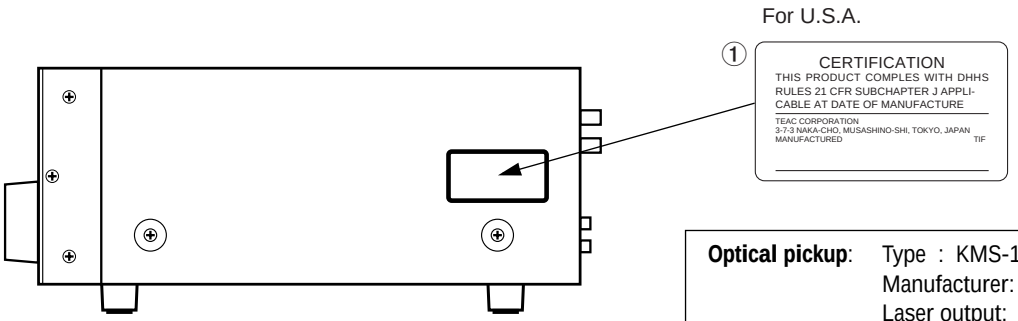

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250. PART H)
NEC - NATIONAL ELECTRICAL CODE

15) Lightning — For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
16) Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17) Overloading — Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in risk of fire or electric shock.
18) Object and Liquid Entry — Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
19) Servicing — Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20) Damage Requiring Service — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
a) when the power-supply cord or plug is damaged.
b) if liquid has been spilled, or objects have fallen into the product.
c) if the product has been exposed to rain or water.
d) if the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
e) if the product has been dropped or damaged in any way.
f) when the product exhibits a distinct change in performance – this indicates a need for service.
21) Replacement Parts — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
22) Safety Check — Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
23) Wall or Ceiling Mounting — The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
24) Heat — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

SAFETY INFORMATION

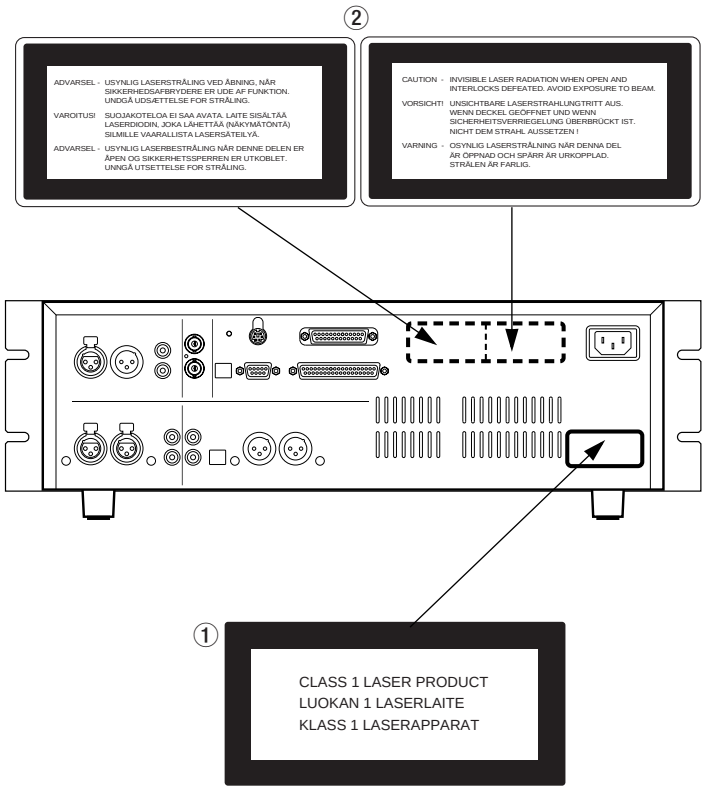
This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on the Radiation Control for Health and Safety Act of 1968", and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings.
The label required in this reguration is shown ①.

- **CAUTION**
- DO NOT REMOVE THE PROTECTIVE HOUSING USING SCREWDRIVER.
- USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
- IF THIS PRODUCT DEVELOPS TROUBLE, MAKE A CONTACT WITH OUR SERVICEMAN, AND DO NOT USE THE PRODUCT IN A TROUBLED STATE.



Optical pickup: Type : KMS-190A or KMS-190B
Manufacturer: SONY Corporation
Laser output: 0.25 mW Min. (Play),
5.0 mW Max. (Record)
Wavelength: 780 nm ±20 nm

● CAUTION ● ACHTUNG ● OBSERVERA ● ADVARSEL


②
ADVARSEL - USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VAROITUS! SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ.
ADVARSEL - USYNLIG LASERBESTRÅLING NÅR DENNE DELEN ER ÅPEN OG SIKKERHETSSPERREN ER UTKOBLET. UNNGÅ UTSETTELSE FOR STRÅLING.
CAUTION - INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
VORSICHT! UNSICHTBARE LASERSTRAHLUNGTRITT AUS. WENN DECKEL GEÖFFNET UND WENN SICHERHETSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN !
VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
①
CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

① THIS LABEL IS ATTACHED TO THE PLACE AS ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.

① DIESE AUFKLEBEMARKE IST AN DEM IN DER ABBILDUNG GEZEIGTEN ORT ANGEBRACHT UM DARAUF HINZUWEISEN, DASS IM INNERN DES GER

① PÅSKRIFTEN SITTER PÅ APPARATEN SOM VISAS SOM UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.

① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

② DETTE MÆRKAT ER SOM VIST PÅ ILLUSTRATIONEN ANBRAGT PÅ INDERSIDEN AF TOPDÆKSLET FOR AT ADVARE BRUGEREN OM AT YDERLIGERE FREMTRÆNGEN VIL VÆRE FORBUNDET MED FARE FOR AT UDSÆTTE SIG FOR LASERSTRÅLING.

ADVARSEL — BETJENING AF ANDRE KONTROLLER OG REGULATORER ELLER BENYTTELES AF ANDRE FREMGANGSMÅDER END BESKREVET HERI ER FORBUNDET MED FARE FOR UDSÆTTELSE FOR LASERSTRÅLING.

VARING: APPARATEN INNEHÅLLER LASER KOMPONENT MED STRÅLNING ÖVERSTIGANDE KLASS 1.

"ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING NAR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDG UDSAETTELSE FOR STRÅLING"

"VAROITUS! SUOJAKOTELOA EI SAA AVATA. LAITE SIS LASERDIODIN. JOKA L
VAARALLISTA LASERS

ADVARSEL: USYNLIG LASERBESTRÅLING NÅR DENNE DELEN ER ÅPEN OG SIKKERHETSSPERREN ER UTKOBLET UNNGÅ UTSETTELSE FOR STRÅLING.

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This manual covers the two models of the MD-801 Mk II product line: the MD-801R Mk II, which is capable of recording and playing back on MiniDisc media, and the MD-801P Mk II, which is for playback only of such media. Apart from the recording and associated facilities provided on the MD-801R, the functionality and specifications of the two units are identical. For brevity, the unit will be referred to as the "MD-801" in instances where there is no difference between the recording and playback models.

When a section of this manual describes a function which is included as part of the MD-801R only, the section will be marked as below:

R

3.12.2Laser pickup time

This indicates how long…

There are no features which are unique to the MD-801P model.

1.1 About the MiniDisc format

This section provides some basic information regarding the MiniDisc format. If more detailed information is required, the reader is referred to one of the many books on the subject. John Wilkinson, *The Art of Digital Audio* 2nd ed. Oxford: Focal Press, 1994 is an excellent reference source, particularly Chapter 12, which deals with the use of optical discs in audio applications.

The MiniDisc format (MD) is a convenient form of digital audio media, using optical playback, similar to CDs.

The format of the MD is substantially smaller than that of the CD, and the disc itself is housed in a cartridge with a shutter, similar to that of a 3.5" floppy disc drive. The disc platter should never be removed from this cartridge.

Pre-recorded MDs, which are manufactured in the same way as commercial CDs, using a stamper process, are read using a laser beam to read the pits stamped onto the disc.

Recordable MDs are also available, and the technology used for recording on a recordable MD is magento-optical, allowing the disc to be re-used many times. Shutters on both sides of the disc allow access to the disc surface by the recorder's laser and magnetic head.

There is a third kind of MD, the hybrid, which contains pre-recorded pits at the center of the MD, together with an area reserved for user recording.

Full explanations of the principles of magneto-optical recording may be found in a number of excellent reference works, but briefly, during the recording process, the disc is exposed to a strong laser beam which heats the disc's magnetic medium so that a magnetic field can be applied to change the orientation of the magnetic particles. On cooling, this orientation is permanently fixed, unless the disc is reheated and re-recorded.

The MD format therefore provides the convenience and durability of an optical disc format with the reusabilty characteristics of tape.

1.1.1 ATRAC compression

If a MiniDisc were to be recorded using exactly the same techniques as a CD, the playback time would be only 15 minutes of stereo playback.

However, using a technique known as ATRAC (Adaptive TRansform Acoustic Coding), 74 minutes of stereo audio at 44.1 kHz sampling frequency with a 16-bit word length can be recorded on an MD.

ATRAC uses two important pyscho-acoustic principles to reduce the size of the recorded data: the greater sensitivity of the human ear to mid-range signals, relative to bass and treble signals, and the "masking" effect, whereby quieter signals are hidden by louder ones.

The ATRAC used in the MD-801R/P Mk II is a very recent version of this encoding scheme (4.5), resulting in an almost inaudible loss of signal quality.

1.1.2 Buffer memory

The ATRAC compression scheme has an additional advantage, as a RAM buffer must be provided for the compressed data, before it is decoded and sent to the D/A converters.

On the MD-801R/P Mk II, this buffer memory holds about 10 seconds' worth of data. The advantage is that, unlike a CD player, the MD-801R/P Mk II is not vulnerable to mechanical shocks and vibration, etc., which can cause a CD player playback pickup to jump and cause audible skipping.

1.1.3 Random access and U-TOC

The format of a recordable MD is much closer to that of a computer disc than of conventional audio media. The random access nature of the disc media allows a logical "track" to be composed of sections of audio data recorded at different points on the disc.

In the same way that a computer's operating system hides the details of the way that data is stored on the

disk from the user, and a file appears as one contiguous block of data (even though it may be spread over many tracks and sectors of the disk), the MD player allows separated audio data to appear as a continuous audio track.

The MD-801 allows the creation and reading of a User Table of Contents (U-TOC) on recordable discs, which contain instructions to the player on the logical arrangement of the tracks, where to find the next audio segment to be played, etc. This is similar to the directory tracks provided as part of a computer disk operating system.

The random access facilities provided by the MD-801 are significantly better than those to be found on consumer MD decks. The effective start time can be effectively zero, compared with hundreds of milliseconds on consumer units.

1.1.4 Track titling, etc.

In common with other forms of digital audio media, the MD medium allows other data to be recorded alongside the audio data. In the MD medium, this is used to provide alphanumeric disc and track titles, which are shown on the display of the player.

In the case of the MD-801R/P Mk II, this information may be conveniently entered through a standard computer keyboard (PS/2 compatible), or through the controls of the main unit.

In addition, a realtime clock allows date- and time-stamping of tracks recorded on the unit or created or edited through TOC editing functions.

These times will be displayed when the disc is replayed on any one of the MD-801 series.

1.2 Care of MD media

The MD medium has been designed to be robust, and the integration of the disc into a cartridge protects the recorded surface from the worst effects of dust, fingerprints, and scratches.

Even so, there are some commonsense precautions that you should take when storing and handling MiniDiscs.

- Do not open the shutter and touch the surface of the disc.
- Do not keep MiniDiscs in excessively dusty locations, in direct sunlight, in areas subject to high temperatures, or high levels of humidity.
- If the cartridge becomes dirty, clean it with a dry, soft cloth. Do not use any solvents or other liquids.

1.3 About the MD-801R/P Mk II

The MD-801R/P Mk II, based on the TASCAM MD-801 series of MD recorder/players, and designed to meet the requirements of audio professionals, includes the following features:

- Full editing functions to divide, erase and combine tracks, etc.
- Auto cue function, allowing the playback point to be automatically cued to the first frame of a track, using a selectable sensitivity level
- Auto ready function, allowing the playback point to be “parked” in the play ready mode at the start of each track
- A resume function, which holds in backup memory the point where playback stopped, or the power was disconnected
- Incremental play mode, allowing cueing of the playback point to the start of the next track, as determined by a selectable audio threshold level, when playback is stopped
- “Soft mute” eliminates clicks, etc. when pausing and restarting playback
- Dual time display
- Three playback modes: normal (whole disc), track play, and A-B play (between two defined points)
- 3-point autolocation facility
- Repeat (disc, track, A-B)
- Either stereo or monaural playback may be selected
- Pitch change ±9.9% in 0.1% steps
- Shuttle operations up to 100 x normal speed, and jog to single-frame accuracy
- Digital outputs in COAXIAL (SPDIF) and AES/EBU
- Word clock synchronization for inclusion of the MD-801 in an all-digital audio setup
- Two sets of analog outputs: –10 dBV unbalanced **MONITOR** (RCA) and +4 dBu balanced **LINE** (XLR-type). The **LINE** outputs may be trimmed for precise signal matching with other equipment
- Output selectable (using remote controllers) from either **MONITOR** or **LINE**
- High-quality DA convertor for optimum analog audio quality
- Level 4.5 ATRAC system
- PS/2-compatible computer keyboard connector allows titling and other remote control operations

to be conveniently carried out using a standard keyboard

- Remote control possible from dedicated TASCAM remote control units (RC-801, RC-FS10/20, and RC-8), or through industry-standard parallel or serial interfaces
- Tally signals sent to controlling device at the end of each track played back
- Optional RAM buffer expansion module (BU-801) allows flash start of track playback

R In addition, the MD801R Mk II provides the following features:

- 20-bit A/D converter for increased audio quality when recording
- Selectable Copy ID modes, including the SCMS standard
- Integral sampling frequency converter, allowing digital recording from material recorded at frequencies other than 44.1 kHz (48 kHz and 32 kHz)
- Digital inputs in both SPDIF and AES/EBU formats
- The ability to record in monaural mode, doubling the recording time available on a disc.
- Analog inputs in both +4 dBu balanced (XLR-type) and –10 dBV unbalanced (RCA) formats. The balanced inputs may be trimmed to match input signal levels
- Replace recording function, allowing recording to be carried out in the middle of a track, while retaining the track title
- Sound sync function to allow the unit to start recording automatically when a selectable audio threshold level is exceeded
- Title dubbing from another MD-801 unit (requires optional connecting cable PW-1XMD)
- Realtime clock for date- and timestamping recorded material

1.3.1 Unpacking the unit

When you unpack the unit, as well as the unit itself and this manual, you should find:

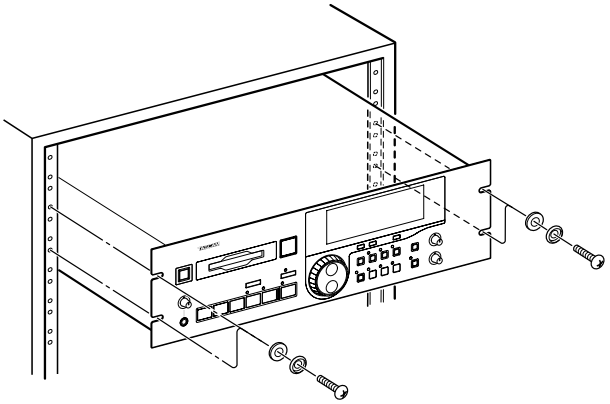
- Power cord
- Rack-mount kit
- Warranty card

If any items are missing, contact your TASCAM dealer.

1.3.2 Rack-mounting the unit

The MD-801 is equipped with integral rack-mount ears, and may be installed in any standard vertical 19” rack.

Remove the feet from the MD-801 using a Phillips screwdriver before installing the unit.



In addition to the 3U of space required for the MD-801 itself, we strongly suggest leaving at least 1U of empty rack space above the MD-801 for ventilation purposes.

1.3.3 Care of the unit

The commonsense precautions that you should take with any piece of precision electronic equipment also apply to the MD-801. In particular:

- Do not subject the unit to severe shocks or vibration. Despite the buffer mechanism mentioned above, there is a risk of data loss, particularly while recording.
- Do not use the unit in very dusty or smoky environments. If the optical lens or the head becomes dirty as the result of such use, use a commercially-available MD lens and head cleaner to clean the lens.
- The exterior of the unit may be cleaned with a soft dry cloth, or a cloth barely dampened with a mild detergent solution. Do not use any solvent, thinner or alcohol-based cleaning agents to clean the unit.

The date and time clock (for timestamping of recordings and edits) is powered by a lithium battery. We suggest that this battery is changed about every two years.

NOTE

Do not attempt to change this battery by yourself. Get an authorized TASCAM service center to perform this operation for you.

1.3.4 Backup memory

When the unit is powered down, the following settings are memorized.

- AUTO READY status (see **[20]**)
- AUTO CUE settings and status (see **[21]**)
- The last used PLAY mode (see **[22]**)
- The two LOC points (A and B) (see **[24]**)
- Pitch control settings and status (see **[25]**)
- REPEAT status (see 4.2.9, "Repeat playback")
- Menu settings (see 3, "Menu items")
- If the resume function is turned on, the resume point is memorized

1.4 About this manual

This manual has been organized so that you should be able to find the section you need relatively quickly. We suggest that you familiarize yourself with at least the Table of Contents, so that you know where to look if you need information on a particular aspect of the unit's operation.

An index is also provided, which should assist you in locating the desired section.

As mentioned earlier, when a section of this manual describes a function which is included as part of the MD-801R only, the section will be marked as below:

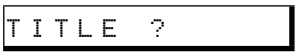
R

3.12.2Laser pickup time

This indicates how long…

There are no features which are unique to the MD-801P model only.

When characters are shown on the unit's dot-matrix display, the following typeface is used: Input Mon. Alternatively, the alphanumeric display itself may be shown:



If a "preset" word or phrase is shown on the display, this is shown as follows: TRACK TITLE.

Track times, program numbers, as shown in 7-digit numbers, are shown as *034*, etc.

If a front panel control or rear panel connection is mentioned, the following typeface is used (a little larger than that used for preset display words): **TOC WRITE**. The number of the control or connection, as given in 2, "Front and rear panel features", may also be given, e.g. **[5]**.

If a front panel control or rear panel connection of another unit is specifically named, the folloiwng typeface is used: **WORD IN**.

When an optional PS/2-compatible keyboard is connected to the MD-801, the keyboard keys are represented in the following typeface:

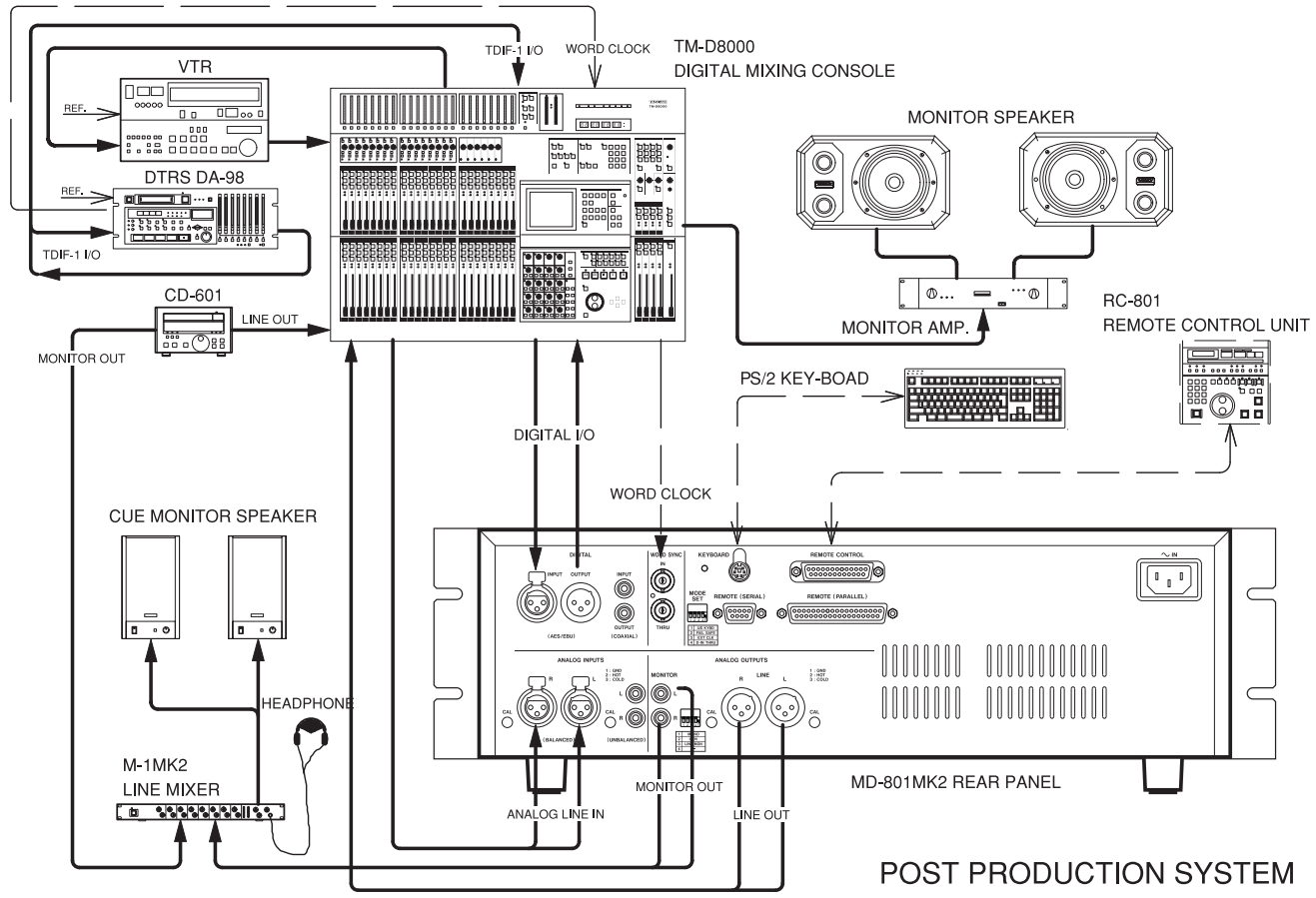
Press **F1** to go back by one track.

If two keys are to be pressed together (i.e. the first-named key is to be pressed and held down while the second is pressed), this is represented as:

Press **SHIFT** + **F1** to enter the erase track editing function.

- d

1.5 Hookup Examplel



2 - Front and rear panel features

This section, as well as giving a description of the controls and features of the MD-801, also provides many descriptions of basic operations.

The section on the rear panel also contains advice on setting up and connecting the MD-801 as part of an audio system.

2.1 Front panel

The following provides details of the basic functions associated with the front panel controls of the unit. If further information on the use of a particular control is provided elsewhere in the manual, this is indicated.

[1] POWER switch

Press once to turn on the unit, and again to turn the unit off.

NOTE

You should not turn the unit off while the U-TOC (1.1.3, "Random access and U-TOC") is being written. If power is disconnected from the unit the U-TOC is being written, the disc data will be corrupted, and the disc may become unreadable.

Always remember to press the **TOC WRITE** *key* **[19]** *before turning off power to the unit, in order to save your edits to disc.*

[2] Disc drive

Insert MiniDiscs into this slot, label uppermost, and with the arrow pointing into the drive.

Use the **EJECT** key **[3]** to eject discs.

[3] EJECT key

Press this key to eject discs from the drive.

NOTE

If you press the **EJECT** *key when the* **TOC WRITE** *indicator* **[19]** *is lit, indicating that there are edits that have been made, but not yet saved to disc as part of the U-TOC, the display will show* `TOC Edited!`*. If you press the* **EJECT** *key again, you can eject the disc, but all edits made since the last U-TOC writing operation will be lost. If you want to save the edits to disc, press the* **TOC WRITE** *key.*

[4] TRACK keys

These keys are used to move the playback position backwards or forwards a track at a time. Their use is detailed in 4.2, "Playback of discs".

[5] STOP key

This key stops playback or recording (MD-801R only). It is also used to cancel other operations.

[6] PLAY key and indicator

Used to start playback or recording (MD-801R only). When the operation is taking place, the key's indicator lights.

[7] READY key and indicator

Used to put the unit into play ready or record ready (MD-801R only) mode. The indicator lights when the unit is ready.

To start the operation, press the **PLAY** key **[6]**.

R If recording is taking place while the **READY** key is pressed, the unit goes into record ready mode. The current track number is incremented by one, to show that the next recording will start a new track, if Post-script recording is turned on (see 3.15, "Post-script recording").

To cancel a ready operation, press the **STOP** key **[5]**.

R [8] RECORD key and indicator

If the unit is stopped, pressing the **RECORD** key will enter "input monitor" mode (the **RECORD** indicator lights) and `Input Mon` appears on the display. This is valid whether or not a disc is loaded in the drive.

In input monitor mode, the signals received at the appropriate connectors, as selected with the input switches (**[28]**, **[29]** and **[31]**) are routed to the outputs for monitoring as well as to the **PHONES** jack **[9]**, and the unit's meters are used to display the signal levels. If the selected digital signal is not available, the `D-IN UNLOCK!` message is displayed.

The input level of the signals input at the analog jacks may be adjusted using the **INPUT LEVEL** controls **[27]**.

If the **RECORD** key is pressed and held down, and the **READY** key is pressed, the unit enters record ready mode (a disc must be in the drive). Both the **RECORD** and **READY** indicators will light.

To start recording, press the **PLAY** key **[6]**. To stop recording, press the **STOP** key **[5]**. After the **STOP** key has been pressed, the words TOC EDIT will flash on the display, which will also show UTOC Writing as the U-TOC is written to disc.

To cancel record ready mode, press the **STOP** key **[5]**.

[9] PHONES jack and level control

Connect a pair of standard stereo headphones to this 1/4" jack. Adjust the level with the **LEVEL** control. The maximum output power is 50 mW per channel, and the impedance is 32 Ω.

[10] CALL key

This key allows you to return to the point where the **READY** key **[7]** was last pressed while the unit was in play ready mode. The unit will return to this point, and enter play ready mode (**READY** and **PLAY** indicators lit). See also 4.2.7, "The CALL function".

R The MD-801R also automatically sets the call point at the point where recording last started. This enables easy return to the point where the recording started, using the **CALL** key, in order to check a take, etc.

It may also be used to locate to the point which has been located with the **JOG** dial **[12]**.

[11] JOG key and indicator

Use this key for precise positioning of the playback point, in combination with the **JOG/DATA** dial **[12]**. When the jog mode is active, the **JOG** indicator above this key is lit.

[12] JOG/DATA dial

When the **JOG** indicator **[11]** is lit, this dial functions as a jog dial, allowing precise positioning of the playback point (confirmed with the **READY** key **[7]**). See 4.2.14, "Jog mode" for full details of this process.

When the **JOG** indicator is not lit, the dial is used as a data entry dial for entering values, titling characters, etc. Typically, turning this dial clockwise increases the data value, and turning it counterclockwise decreases the value.

[13] SHUTTLE wheel

This wheel can be used for shuttle playback (forwards or backwards) when the unit is in play or play ready mode. Since the MD-801 is a digital audio device, the sound output during shuttle play is not continuous.

The further the shuttle wheel is turned from the center position, the faster the shuttle playback speed.

When the unit is in menu mode, this wheel is used in the MD-801's menu system. Turning it clockwise generally confirms an action, and turning it counterclockwise acts as an "escape" action. It is also used as a cursor control in titling operations.

[14] Display

See 2.2, "Display" below for details of the different components that make up the display.

[15] MENU key

The **MENU** key is used to cycle through the different menus that allow the setting of different parameters affecting the operation of the MD-801. See 3, "Menu items" for full details of the menus and the different options available in them.

[16] TITLE key

The **TITLE** key is used to show both disc and track titles. It is also used to display the date and time when the **MEMO IN/CAPS** key indicator **[23]** is lit.

See 4.2.16, "Displaying track titles during playback" and 4.2.17, "Displaying the recording date" for details.

[17] TIME key

The **TIME** key is used to cycle through the folloiwng time display modes on the upper 7-segment numeric indicators of the display during playback or in play ready mode:

- (no indication)—the time elapsed from the start of the current track
- REMAIN—the playback time remaining in the current track
- TOTAL—the total elapsed time from the start of the disc
- TOTAL REMAIN—the total time remaining on the disc

It is also possible to make a time display which is relative to a "zero point" (see the section on 4.2.8, "Relative time display").

R When the unit is in record or record ready mode, the meanings change slightly, as shown below:

- (no indication)—the time elapsed from the start of the track currently being recorded

- REMAIN—the total time remaining on the disc for further recording (the length of the blank portion of the disc)
- TOTAL—the total elapsed time from the start of the disc
- TOTAL REMAIN—the total time remaining on the disc for further recording (the same as REMAIN)

If the **MEMO IN/CAPS** indicator **[23]** is lit, the unit is in play or play ready mode, and the **TIME** key is pressed, the lower (alphanumeric dot-matrix) part of the display may be used to give timing information. This is represented as follows:

- elp—the time elapsed from the start of the current track
- rem—the playback time remaining in the current track
- tel—the total elapsed time from the start of the disc
- tre—the total time remaining on the disc
- rel—the time relative to a user-settable “zero point” (see 4.2.8, "Relative time display")

R When the unit is in record or record ready mode, and the **MEMO IN/CAP** indicator **[23]** is lit, and the **TIME** key is pressed, the lower (alphanumeric dot-matrix) part of the display may be used to give timing information. This is representated as follows:

- elp—the time elapsed from the start of the track currently being recorded
- rem—the total time remaining on the disc for further recording (the length of the blank portion of the disc)
- tel—the total elapsed time from the start of the disc
- tre—the total time remaining on the disc for further recording (the same as rem)
- rel—the time relative to a user-settable “zero point” (see 4.2.8, "Relative time display")

It is therefore possible to have two separate time indicators shown simultaneously. Note that if both the upper and lower parts of the display are set to the same time indication, there may be occasions where the two values shown do not always match exactly.

To turn off the time display in the lower part of the display, press the **TIME** key until the disc or track title is shown, rather than the time display.

In the play and play ready, as well as the record and record ready modes, the **TIME** key can also be used to display the following:

- aay bbm ccd—where aa is the year, bb is the month, and cc is the day of the date according to the MD-801’s internal clock.
- eeh ffm ggs—where ee is the hour (in 24-hour format), ff the minutes and gg the seconds of the time of day according to the MD-801’s internal clock.

If the internal clock needs to be adjusted, follow the procedure described in 4.2.18, "Setting the time and date".

[18] EDIT key

The **EDIT** key is used to access various data and disc editing modes, as detailed below.

When the **EDIT** key is pressed, the **JOG/DATA** dial **[12]** is used to cycle through the various editing options as detailed below.

When an editing mode is shown, followed by a question mark, turning the **SHUTTLE** wheel **[13]** clockwise will enter that editing mode.

To exit the editing mode, the **SHUTTLE** wheel can be turned counterclockwise, the **EDIT** key can be pressed once again, or the **STOP** key **[5]** can be pressed.

The following is a list and brief description of the editing functions available. Full details are given in 5, "Editing operations":

- DIVIDE?—Divides a track into two tracks
- ERASE TRK?—Erases a track
- COMBINE?—Joins two tracks into one
- MOVE?—Moves tracks in a sequence
- ERASE A-B?—Erases data between the A and B points
- INSERT A-B?—Commits an insertion to disc
- RESTORE?—Restore an erased track or section (can be regarded as an “undo” function)
- TRK ATTR?—Sets track attributes
- ERASE DISC?—Erases the contents of the disc
- TITLE?—Enters a track or disc title

NOTE

It is possible to perform editing operations on pre-recorded (read-only) discs. However,

these edits cannot be committed to disc using the **TOC WRITE** *function (see below).*

[19] TOC WRITE key and indicator

After an edit operation has been selected and performed from the **EDIT** key **[18]**, the **TOC WRITE** indicator will light, and the TOC EDIT indicator in the display will be lit. This is a reminder that the disc should not be ejected before the U-TOC has been written to disc.

Press the **TOC WRITE** key, and the editing data will be written to disc, during which time the TOC EDIT indicator in the display will flash.

See the explanation of the **EJECT** key **[3]** for details of how to eject a disc without writing the U-TOC, if this is required.

[20] AUTO READY key and indicator

Use this key to put the unit into auto ready mode (the indicator will light). The auto ready mode provides automatic “track at a time” playback.

When in auto ready mode, the unit will go into play ready mode when the start of a track is reached in playback. See 4.2.11, "Cueing the next track automatically" for full details.

[21] AUTO CUE key and indicator

Use this key to put the unit into auto cue mode (the indicator will light). The auto cue mode allows the elimination of “dead time” at the start of tracks, allowing easy pre-cuing of commercials, jingles, Foley effects, etc.

When the unit is in auto cue mode and stopped, and the **READY** key **[7]** is pressed, the unit will search forward for the first audio frame above a given threshold level, and cue itself to that location. It will then enter play ready mode.

A similar process occurs when a track search operation has occurred.

See 4.2.12, "Cueing to the first audio position in a track" for further details.

[22] PLAY MODE key

Use this key to cycle between the different playback modes. This key is enabled in the stop and the play ready modes.

Both the display preset indicators and the alphanumeric part of the display are used to show the current playback mode status, as follows:

- SINGLE/SINGLE MODE—Single-track playback mode is selected
- (blank)/CONTINUE—Continuous play of a disc, from the start to the end
- A-B/A-B MODE—If the A and B points have been set (see **[24]**), playback will loop between these points

Once a playback mode has been selected, the **REPEAT** key **[26]** can be used to repeat the portion of the disc being played back (track, disc or A-B portion).

[23] MEMO IN/CAPS key and indicator

This key is used for a variety of functions: entering memory location points, acting as a “caps lock” key when entering disc and track titles, and as a display mode selector (see **[17]**), etc.

Its uses are described more fully in the various sections dealing with the functions that it controls.

[24] LOC A/DEL & LOC B/INSERT keys and indicators

These keys are used to set memory location points, which are used for location, repeat play, editing purposes, etc. These points are retained until the disc is ejected (including at power-off). See 4.2.5, "Entering the A and B location points" for details of how to set these positions.

These keys may also be used for locating to the points which have been set.

In title editing mode, the A and B keys are used to delete and insert characters, respectively. See 5.11, "Track and disc title entry".

[25] PITCH CONT key and indicator

Use this key to enter the pitch control mode (the indicator lights when this mode is active). When pitch control is active, the speed (and pitch) of playback can be altered by ±9.9%.

NOTE

Pitch control is not possible when the MD-801 is receiving its word clock from an external source (see **[43]***).*

The exact amount of pitch control is set through a menu item (see 3.2, "Pitch control" for details).

[26] REPEAT key and indicator

Use this key to start repeat play of the selected playback portion of the disc (see **[22]**). When in repeat

mode, the **REPEAT** indicator will be shown on the display. See 4.2.9, "Repeat playback" for further details of this mode.

R [27] INPUT LEVEL controls

These controls adjust the level of the signal at the analog connectors selected using the **INPUT** selection switch **[28]** (either the balanced inputs **[36]** or the unbalanced inputs **[37]**) when the **ANALOG INPUT** switch **[31]** is set to **UNCAL**.

When these controls are at about the "12 o'clock" position, they represent a nominal level for the unbalanced inputs (and for the balanced inputs if the trimmer potentiometers of the balanced inputs are still at the factory positions).

If the **REC MODE** switch **[30]** is set to the **MONO** position, the **L (MONO) INPUT** control is used to control the level of the monaural signal.

NOTE

The level of signals received at the digital inputs **[32]** *and* **[34]** *cannot be adjusted.*

R [28] INPUT selection switch

Use this switch to choose between the unbalanced analog inputs (**UNBAL [37]**), the balanced analog inputs (**BAL [36]**) or digital input (**DIGITAL**).

R [29] DIGITAL INPUT switch

Use this switch to choose between the **AES/EBU** digital input **[32]** and the **COAXIAL** digital input **[34]** when the **INPUT** selection switch **[28]** is set to the **DIGITAL** position.

R [30] REC MODE switch

Use this switch to choose between monaural and stereo recording.

In monaural recording mode, the left and right signals are combined, and only the left **INPUT** level control **[27]** is used to control the level of the analog signals.

In monaural recording, twice the recording time is available on a disc than when recording in stereo.

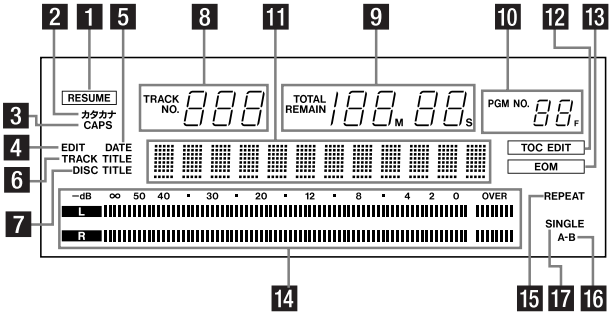
R [31] ANALOG INPUT switch

When an analog input has been selected using the **INPUT** selection switch **[28]**, you can use this switch to bypass the **INPUT** level controls **[27]**.

When this switch is in the **CAL** position, these controls are bypassed, and have no effect. Signals are neither boosted nor attenuated, and a nominal signal will be received at the standard level of either +4 dBu (balanced, **[36]**) or –10 dBV (unbalanced, **[37]**).

A signal at the nominal analog level (0 dB) will show as a reading of –16 dB on the unit's meters (put another way, there is 16 dB of headroom available on the MD-801 relative to the nominal 0dB point).

2.2 Display



The different indicators and parts of the display are shown here. We refer to the parts of the display which light and show preset messages as "preset indicators" or simply "indicators".

(1) RESUME indicator

Lights when the resume mode is enabled from a menu (see 3.6, "Resume setting").

(2) カタカナ indicator

Lights when the entry of Japanese *katakana* characters (カタカナ is the word "katakana" written in *katakana* characters) is enabled, and will light if the **TITLE** key **[16]** is pressed when the **MEMO IN/ CAPS** indicator **[23]** is lit. Press the **TITLE** key once more to turn this off, and return to the entry of alphanumeric characters.

(3) CAPS indicator

Lights when capital (uppercase) letters are being used for title entry and editing (see **[23]**).

(4) EDIT indicator

Lights when the unit is in EDIT mode. See 5, "Editing operations" for details of editing operations.

(5) DATE indicator

Lights when the unit is displaying the date on which a recording was made (the MD-801R records the date automatically). See 4.2.18, "Setting the time and date" for details of facility.

(6) TRACK TITLE indicator

Lights when track titles are being entered or displayed. See 5.11, "Track and disc title entry" for details.

(7) DISC TITLE indicator

Lights when the title of the disc is being entered or displayed. See 5.11, "Track and disc title entry" for details.

(8) TRACK NO. display and indicator

This 3-digit 7-segment display usually shows the current track. It may also be used to show a track number other than the current one, depending on the mode.

When the incremental play mode is on (see 3.10, "Incremental play"), this indicator will flash.

(9) Time display and indicators

Shows the elapsed or remaining time using a 7-digit 7-segment display (3 digits for minutes, 2 for seconds and optionally 2 for frames). See the explanation of the **TIME** key **[17]** for details of the different time display modes.

(10) PGM NO.

Lights in programmed play mode (see 6.2.1, "Entering programmed playback") and is used with the last 2 digits of the time display **(9)**.

(11) Dot-matrix alphanumeric display

These dot-matrix elements are used to display alphanumeric information: track and disc titles, time display, menu options, etc.

Note that the term “alphanumeric” is not strictly accurate here, as these elements can also display some punctuation as well as Japanese *katakana* **(2)**.

(12) TOC EDIT indicator

Lights in the U-TOC editing modes and after a disc U-TOC has been edited (see **[19]**) until it is written to disc.

(13) EOM

Lights briefly at the end of each track, or at the end of the disc.

(14) Peak level meters

Display the signal level on playback or when recording (MD-801R only).

NOTE

The OVER *indicator indicates digital clipping. Digital clipping is a harsh-sounding form of distortion, unlike, say, analog tape saturation, and should be avoided.*

When connected to analog equipment, the nominal analog level is referenced to a reading of –16 dB on the meters (see **[31]**).

(15) REPEAT indicator

Lights when the unit is in repeat playback mode (see **[26]**).

(16) SINGLE indicator

Lights when a single track has been selected for playback (see **[22]**).

(17) A–B indicator

Lights when the A-B playback mode has been selected (see **[22]**).

2.3 Rear panel

This section gives details of the connections which should be made to and from the MD-801.

NOTES

When making or breaking connections between the MD-801 and other units, make sure the power is turned off to all units. This will avoid possible damage to monitoring equipment, etc. caused by transients.

The use of analog cables is not recommended for digital audio use, and TASCAM cannot guarantee reliable performance if such cables are used for digital audio connections.

[32] DIGITAL INPUT (AES/EBU)

This XLR-type connector accepts digital audio data in AES3-1992 format.

It also accepts balanced data in the IEC 60958 (consumer) format (SPDIF).

The input sampling frequency can be 32 kHz, 44.1 kHz or 48 kHz. The MD-801’s internal sampling frequency converter will convert them all to 44.1 kHz for recording.

If switch 4 of the **MODE SET** DIP switch bank **[43]** is set off, the signals input here are echoed at the dig-

ital outputs **[33]** and **[35]** without passing through the frequency converter.

[33] DIGITAL OUTPUT (AES/EBU)

This XLR-type connector outputs digital audio data in AES3-1992 format.

The output sampling frequency will always be 44.1 kHz, ±9.9%, as determined by the pitch control (see both 4.2.13, "Varispeed mode" and 3.2, "Pitch control").

R [34] DIGITAL INPUT (COAXIAL)

This RCA connector accepts digital audio data in IEC 60958 (consumer) format (SPDIF).

The input sampling frequency can be 32 kHz, 44.1 kHz or 48 kHz. The MD-801's internal sampling frequency converter will convert them all to 44.1 kHz for recording.

If switch 4 of the **MODE SET** DIP switch bank **[43]** is set off, the signals input here are echoed at the digital outputs **[33]** and **[35]** without passing through the frequency converter.

[35] DIGITAL OUTPUT (COAXIAL)

This RCA connector outputs digital audio data in IEC 60958 (consumer) format (SPDIF).

The output sampling frequency will always be 44.1 kHz, ±9.9%, as determined by the pitch control (see both 4.2.13, "Varispeed mode" and 3.2, "Pitch control").

R [36] ANALOG INPUTS and trimmers (BALANCED)

These XLR-type connectors accept balanced analog signals at professional (+4 dBu) levels.

The wiring is, as marked on the rear panel: 1=ground, 2=hot (+), 3=cold (–).

The nominal impedance is 2.2 kΩ.

The trimmer potentiometers by each connector may be turned counterclockwise or clockwise to cut or boost respectively the level of the signal received at the inputs. The maximum cut achievable (relative to nominal) is –4 dB and the maximum boost is +7 dB.

As shipped, the trimmers are set to the standard +4 dBu level.

R [37] ANALOG INPUTS (UNBALANCED)

These RCA connectors accept unbalanced signals at the –10 dBV level.

The nominal impedance is 8 kΩ.

[38] ANALOG OUTPUTS (MONITOR)

These RCA unbalanced connectors provide output signals at the –10 dBV level.

The nominal impedance is 220 Ω.

[39] Analog output function DIP switch bank

This bank of four DIP switches is used to control the outputs from the **MONITOR** and **LINE** analog outputs **[38]** and **[40]**.

They have the following meanings:

No	OFF (up)	ON (down)	
1	STEREO	MONO	Allows the output mode from both the **LINE** and the **MONITOR** outputs to be set to **MONO** or **STEREO**, as well as output from the **PHONES** jack.
2	SYNCHRONIZE	INDIVIDUAL	When set to **SYNCHRONIZE**, the **LINE** and **MONITOR** outputs are paralleled. When set to **INDIVIDUAL**, signals are output from the **MONITOR** outputs only when the **PLAY** key on the MD-801 itself, or the **MONITOR** key on the optional RC-801 is pressed. To output signals from the **LINE** outputs when this switch is set to **INDIVIDUAL**, use the **ONLINE** key on the optional RC-801, or send a "play" command from a remote controller connected to the serial or parallel interface.
3	LINE MON OFF	LINE MON ON	When **OFF**, whether the **MONITOR** outputs output a signal depends on the setting of switch 2 in this bank (i.e. if switch 2 is on, the **MONITOR** outputs are only active when the MD-801's **PLAY** key has been pressed). When **ON**, monitoring is always on, regardless of from where the play command originated.
4	Reserved—leave in the **OFF** position		

NOTE

The **PHONES** *output* **[9]** *is always active, regardless of the settings made using these switches.*

[40] ANALOG OUTPUTS (LINE) and trimmers

These XLR-type connectors output balanced analog signals at professional (+4 dBu) levels.

The wiring is, as marked on the rear panel: 1=ground, 2=hot (+), 3=cold (–).

The nominal impedance is 11 Ω.

The trimmer potentiometers by each connector may be turned counterclockwise or clockwise to cut or boost respectively the level of the signal sent from these connectors. The maximum cut achievable (relative to nominal) is –7 dB and the maximum boost is +4 dB.

As shipped, the trimmers are set to the standard +4 dBu level.

[41] WORD SYNC IN

This BNC connector accepts a 44.1 kHz word clock (impedance 75 Ω) at 44.1 kHz (±6%).

[42] WORD SYNC THRU

This self-terminating BNC connector echoes the word clock signal received at **[41]**.

[43] MODE SET DIP switch bank

This switch bank allows the setting of various local parameters.

No	OFF (up)	ON (down)	
1	JAPAN KBD	US KBD	Allows the selection of a Japanese (106-key) keyboard (**JAPAN KYBD**) or an American-style (101-key) keyboard (**US KBD**) to be connected to **[44]** for titling, etc.
2	FAIL SAFE OFF	FAIL SAFE ON	When set **OFF**, all front panel operational controls are enabled. When set **ON**, only the **STOP** key on the front panel are enabled when the MD-801 is playing as the result of e command received from an external controller (RC-801, etc.).
3	EXT CLK INTERNAL	EXT CLK EXTERNAL	When **OFF**, any word clock signals received at **[41]** are not used, and the unit uses its own internal clocking. When set to **ON**, the unit clocks to the signal received at the **WORD SYNC IN** **[41]**.
4	D-IN NORMAL	D-IN THRU	When **OFF**, digital signals received at either **[32]** or **[34]** are not directly retransmitted. When the switch is set to **ON**, received digital signals are retransmitted directly from the digital outputs **[33]** and **[35]**. This allows autonumbering, etc. to take place using multiple MD-801 units “daisy-chained” together.

[44] KEYBOARD connector

This connector is used to connect a PS/2-type computer keyboard which can be used for the direct alphanumeric entry of titles, etc. as well as for controlling playback operations.

Depending on the setting of **MODE SET** bank DIP switch 1 **[43]**, either a US-type or a Japanese-type keyboard can be used. See 6, "Use of a keyboard with the MD-801" for details of keyboard-based operations.

[45] REMOTE (SERIAL) connector

This RS-232 interface allows control by a computer or by other serial controllers.

Consult your TASCAM dealer for details of this port if you wish to use it.

[46] REMOTE CONTROL connector

Use this connector to attach either an optional RC-801 remote contoller or an optional RC-FS10/20 remote controller. Consult your TASCAM dealer for details of availability.

[47] REMOTE (PARALLEL) connector

Use this connector to attach an optional RC-8 remote control unit or to control the deck from a controlling device using parallel protocol.

[48] ~ IN (power in connector)

Connect the supplied power cord to this inlet. Make sure that your AC voltage matches the voltage expected by the MD-801, as printed on the rear panel.

The selections that can be made using the MD-801's menu system affect the operation of many other functions. We suggest that you take the time to look through this section and familiarize yourself with the basic contents, so that you have an idea of some of the options available to you.

3.1 Basic principles of menu operations

1. The menu system is entered using the **MENU** key **[15]**. Pressing this key brings up a menu in the display.
2. The **JOG/DATA** dial **[12]** is used to select a menu.
3. The **SHUTTLE** wheel **[13]** is used to open the menu selected in step 2.
4. The **JOG/DATA** dial is used to select parameters and enter values for the menu. Turn the dial clockwise to increase values, and counterclockwise to decrease them.
5. "On" and "off" values are selected by turning the **SHUTTLE** wheel clock wise and counterclockwise respectively (**Y** and **N**).
6. A few menus have "sub-menus" which are selected using the **JOG/DATA** dial, and opened with the **SHUTTLE** wheel.
7. When a menu item has been set in step 4, turn the **SHUTTLE** wheel to the right (**Y**) to enter the value and return to normal operation.

To "escape" from menu mode without making a setting, turn the **SHUTTLE** wheel to the left (**N**) or press the **MENU** key.

3.2 Pitch control

```
PITCH CONT ?
```

Pitch control can be set ±9.9%, in 0.1% steps. The default setting is 0.0%.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
PITCH>   0.0%
```

See 4.2.13, "Varispeed mode" for details of pitch control operations.

3.3 Auto cue

```
A CUE LVL ?
```

The auto cue facility allows you to cue the playback position automatically to the first frame where the audio level goes above a trigger threshold (see 4.2.12, "Cueing to the first audio position in a track"). This menu allows you to set the threshold. The default setting is –54 dB.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
A CUE> -54dB
```

There are nine sensitivity levels available for use with this function: –24 dB, –30 dB, –36 dB, –42 dB, –48 dB, –54 dB, –60 dB, –66 dB and –72 dB.

R This setting is also used with the Sound Synchro function as the threshold above which recording starts (or below which the unit drops into record ready mode).

3.4 Frame display

```
FR DSPL SEL?
```

The frames part of the time display can be turned on or off. There are either 86 or 87 MD frames per second. The default setting is on.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
FR DSPL>ON
```

The only two options here are on and off.

3.5 Jog loop length

```
JOG LENGTH ?
```

As explained in 4.2.14, "Jog mode", when locating a point using the **JOG** dial, playback is looped, starting at the provisional jog point.

This menu allows you to set the length of the jog loop. The default value is 16 frames (about 0.2 second).

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
JOG LG>   16f
```

The minimum length for the jog loop is 12 frames, and the maximum value is 32 frames. The value is set in 1-frame steps.

3.6 Resume setting

```
RESUME SEL ?
```

When the resume setting is turned on, playback restarts from the point at which it was stopped (or the point at which playback was taking place when the power was cut off). The default is off, which means that when playback is stopped, it will start at the beginning of the disc, unless a track number is explicitly specified.

This function, when on, changes the function of the **STOP** key **[5]**. When the resume function is on, and the **STOP** key is pressed in play mode, the MD-801 enters play ready mode. If the **STOP** key is pressed once again, the MD-801 enters stop mode.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
RESUME> OFF
```

The options available are on and off.

3.7 EOM disc

```
EOM DISC ?
```

This menu item affects the output of the MD-801 to a device attached to the parallel port (see 7.1, "REMOTE (PARALLEL) connector". When set on, an “EOM DISC” tally signal is transmitted from the parallel port when the end of the disc is reached in playback (or recording, in the case of the MD-801R).

When this message is transmitted, the **EOM** indicator flashes in the display.

In this menu, it is possible to select how many seconds before the end of the disc this message is to be sent, or to turn the message off completely. The default setting is off.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
EOM DISC>OFF
```

The time may be set from 1 to 99 seconds, in 1 second steps, or set to off.

R

NOTE

The EOM tally signal is always transmitted when the U-TOC is updated as the result of a recording operation having been completed, unless this setting is set to off. It is also transmitted when recording is halted temporarily.

3.8 EOM track

```
EOM TRACK ?
```

The EOM track is similar to the EOM disc function, as described above. The EOM tally signal is transmitted before the end of a track playback, and this menu allows the time before the end to be set, or the disabling of this function (default off).

When this message is transmitted, the **EOM** indicator flashes in the display.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
EOM TRK> OFF
```

The time may be set from 1 to 99 seconds, in 1 second steps, or set to off.

3.9 Timer-controlled playback

```
TIMER PLAY ?
```

When this function is enabled, if a disc is in the unit, and the unit is powered up (e.g. from a timer-based switching unit), the TOC is read, and playback starts. The default setting is off.

If the resume function is switched on (3.6, "Resume setting") playback will start from the point at which playback was last stopped, or at the playback point at which the power was last cut off.

If the resume function is off, playback will start from the beginning of the disc.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
TMR PLY>OFF
```

The options available are on and off.

3.10 Incremental play

```
INCR PL SEL?
```

This function allows auto-cueing of the playback point to the start of the next track when the **STOP** key **[5]** is pressed, or a fader stop command is received (on pin 8 of the parallel remote control port **[47]**).

When this mode is enabled, pressing the **PLAY** key **[6]** of the MD-801, or on an optional RC-801 or RC-8 remote control unit (or the **MONITOR** key of either of these units), or a PS/2-type keyboard connected to the MD-801 will cue playback to the start of the track following the current track, and start playback from there.

NOTES

While this function is enabled, the TRACK NO. *indicator flashes, as a reminder that the function is enabled.*

The Auto Ready function (see 4.2.11, "Cueing the next track automatically"), together with the associated commands received at the serial remote control port) is disabled when this function is enabled.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

```
INCR PL> OFF
```

Choose between on and off, with the default setting being off.

3.11 Serial communications

```
SERIAL SET ?
```

This menu allows the setting of parameters affecting the serial (RS-232C) control port **[45]**. This menu contains sub-menus, allowing the different parameters to be accessed (**DATA** dial to show the sub-menus, **SHUTTLE** wheel to open them).

3.11.1 Baud rate

From the main menu, the first sub-menu allows the setting of the communications speed (baud rate):

```
BAUD SEL ?
```

When this sub-menu is opened, the baud rate can be selected and set. The default value is 9600.

```
BAUD>    9600
```

When a sub-menu value has been set with the **SHUTTLE** wheel, the unit returns to the normal setting.

3.11.2 Word length

The next sub-menu allows the setting of the word length in serial communications:

```
LENGTH SEL ?
```

When this sub-menu has been opened, the word length can be set to 7 or 8 bits. The default is 8 bits.

```
LENGTH>8bits
```

3.11.3 Parity

The next sub-menu allows the setting of the parity to be used in serial communications:

```
PARITY SEL ?
```

When this sub-menu has been opened, the parity can be selected from off, odd or even parity. The default is for off (no parity).

```
PARITY>  OFF
```

3.11.4 Stop bits

The final sub-menu allows the setting of the number of stop bits:

```
STOP BIT ?
```

When this sub-menu is opened, thje number of stop bits can be set to 1 or 2. The default is 1.

```
STOP BIT>   1
```

3.12 Check items

These are not settable menu items, but allow the checking of various aspects of the MD-801 system.

When the following menu item appears, use the **SHUTTLE** wheel to enter the menu, and the **DATA** dial to choose the different options.

```
CHECK ?
```

Exit the menu system by turning the **SHUTTLE** wheel.

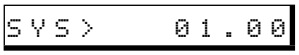
3.12.1Spindle motor time

Use this to check how many hours the spindle motor has been in operation.

R 3.12.2Laser pickup time

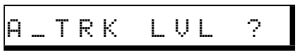
This indicates how many hours the laser pickup has been used for recording.

3.12.3System software version



This allows you to check the current system software version.

R 3.13Auto track numbering level



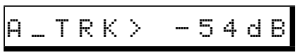
This allows the setting of the threshold above which a signal received at the **AES/EBU** jack or either of the analog connectors triggers the start of a new track (see 4.3.4, "Track number incrementing"). This value can be off, or one of nine values, as detailed below.

There should be a period of relative silence (i.e. below the trigger level) of at least three seconds between “tracks” in the source material for this function to operate.

NOTE

Bear in mind that some classical material, spoken word, etc. may include such periods of silence, and this may cause spurious track divisions. Also, some analog material may be noisy, and the noise may go above the track division threshold. Adjust the threshold level taking these factors into consideration.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:



The available settings are: –24 dB, –30 dB, –36 dB, –42 dB, –48 dB, –54 dB, –60 dB, –66 dB, –72 dB and off. The default value is –54 dB.

R 3.14Copy ID

When recording an MD on the MD-801, the copy ID of the recorded MD can be set for different purposes.

The three settings available are:

- Copy Free—(Free) allows unlimited digital copies to be made from the digital recording made on the MD-801
- First-generation copy only—(1 Gen) allows only one digital copy to be made from the digital recording produced on the MD-801
- Copy prohibit—(Proh) means that no further digital copies can be made from the digital recording produced on the MD-801.

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

The default setting is for free copying. The restrictions apply only to digital copies produced through the **COAXIAL** port. The copy bit is ignored if the recording is made when the disc is played back through the **AES/EBU** connector.

R 3.15Post-script recording

As explained in 4.3.5, "“Post-Script” recording", recording can start either from the beginning of the disc (when this function is turned off), or from the beginning of the free space available, i.e. after the last recorded track (when this function is turned on).

This function also controls the operation of the replace recording function (see 4.3.6, "Replace recording").

After the menu has been opened with the **SHUTTLE** wheel, the display changes:

The available options are on and off, with the default being on.

This section gives you informstion about the basic operations using the MD-801.

It assumes that you have connected the MD-801 to all the other equipment that you will be using. If you have not already made these connections, read 2.3, "Rear panel" for details of the rear panel connections, and connect the other equipment appropriately.

4.1 Inserting and ejecting discs

Discs are inserted label side uppermost, in the direction of the arrow marked on the disc. The display shows:

if the MD-801 is turned on without a disc in the drive.

As the disc is loaded, the display shows:

When the disc has been loaded, the disc title, number of tracks, total running time, etc. are displayed.

Use the **EJECT** key **[3]** to eject discs.

Discs do not have to be ejected when the power to the MD-801 is turned off. No damage will be caused to discs if they are left in the unit at power-off or power on.

NOTE

Never turn the power off when the U-TOC is being written to disc (UTOC Writing). If you do, the disc may become unreadable.

When the MD-801 is turned on with a disc already loaded in the drive, the display will show:

before showing the disc title, running time, number of tracks, etc.

4.2 Playback of discs

The following instructions apply to both pre-recorded and recordable MD media.

4.2.1 Playing back a whole disc

When the disc has been loaded, and the TOC has been read, use the **PLAY MODE** key so that the playback mode is not set to **SINGLE** or **A-B** (see **[22]**).

Press the **PLAY** key **[6]**. Playback will start from the beginning of the disc.

Stop playback with the **STOP** key **[5]**.

Pause playback with the **READY** key **[7]** and restart it with the **PLAY** key.

NOTE

If the tracks being played back are less than three seconds in length, playback will be discontinuous ("jumpy").

4.2.2 Playback outputs

There are two sets of outputs provided on the MD-801: the **LINE** balanced XLR-type at +4 dBu **[40]**, and the **MONITOR** unbalanced RCA at –10 dBV **[38]**.

OUTPUT MODE DIP switch 2 **[39]** on the rear panel is used to synchronize these outputs so that material is always played back through both sets of outputs (off), or individually (on).

If the individual output option is chosen, the **PLAY** key on the MD-801 itself or the **MONITOR** key on the RC-801 will start playback through the **MONITOR** outputs only. In this case, the **LINE** outputs are activated following a play or online command from a remote controller (keyboard, RC-801, RC-8 or the serial or parallel controller).

If the the **LINE** outputs are used for playback, the **MONITOR** outputs may also be used for simultaneous playback. **OUTPUT MODE** DIP switch 3 controls this. When set to off, the **MONITOR** outputs are muted when the **LINE** outputs are in use. When set on, the **MONITOR** outputs are always used.

The **PHONES** jack **[9]** is always used.

The above applies to the analog outputs only, and does not refer at all to the digital outputs, which are always in use, regardless of the origin of the playback command.

4.2.3 Monaural playback

OUTPUT MODE DIP switch 1 **[39]** is used to combine the left and right tracks and output them from both the left and right outputs equally.

The outputs affected are the **LINE [40]**, **MONITOR [38]** and **PHONES** outputs. The digital outputs are not affected by the position of this switch.

4.2.4 Playing back a single track

When the disc has been loaded and the TOC has been read, use the **PLAY MODE** key to select the SINGLE play mode (see **[22]**).

Use the **TRACK** keys **[4]** to move the playback position to the start of the desired track.

Press the **PLAY** key **[6]**. Playback will start from the beginning of the track.

Stop playback with the **STOP** key **[5]**. Playback will restart at the start of the disc, unless you move the playback position to the start of the next track to be played back.

NOTE

The above function can be overridden with the resume function, which turns the **STOP** *key into a "PAUSE" key and allows playback to continue from where it was paused using the STOP key. See 3.6, "Resume setting" for details.*

Pause playback with the **READY** key **[7]** and restart it with the **PLAY** key.

4.2.5 Entering the A and B location points

1. Press the **MEMO IN/CAPS** key **[23]** so that the indicator lights.
2. Locate the playback point to the first location, and press **LOC A/DEL [24]**. The indicator will light, showing that a value has been entered into the location, and the **MEMO IN/CAPS** indicator will go out.
3. Locate the playback point to the second location, and press the **MEMO IN/CAPS** key **[23]** again so that the indicator lights.
4. Press **LOC B/INSERT [24]**. The indicator will light, showing that a value has been entered into the location, and the **MEMO IN/CAPS** indicator will go out.

Clear the location points by stopping playback, pressing the **MEMO IN/CAPS** key, and pressing the appropriate location key (**LOC A/DEL** or **LOC B/INSERT**) so that the indicator goes out.

4.2.6 Playback between two location points

1. Enter the location points as described above.
2. Press the **PLAY MODE** key **[22]** so that the display shows A-B.
3. Press **LOC A/DEL [24]**. The unit will locate to the first point, and start playing until it reaches the second point, and then stop.

If the location points are in the wrong order (i.e. B precedes A), the display will show A-B Error when playback is attempted.

4.2.7 The CALL function

The CALL key **[10]** is used for easy location to a marked point

1. Put the MD-801 into play ready mode at the point you want to mark (the **READY** indicator **[7]** should be lit).
2. Press the **READY** key. The current point is now marked.
3. You can now play back, or perform the next operation.
4. To return to the marked point, press the **CALL** key **[10]**.

R The MD-801R also automatically sets the call point at the point where recording last started. This enables easy return to the point where the recording started, using the **CALL** key, in order to check a take, etc.

4.2.8 Relative time display

The call point set in the way described above (4.2.7, "The CALL function") can also be used as a zero point for relative time display (all times are displayed relative to this point, with times before the point being displayed as negative values), To enter the relative time mode:

1. Make sure that the **MEMO IN/CAPS** indicator **[23]** is lit.
2. Press the **TIME** key **[17]** to show the different display modes. The relative display mode appears as follows:

where xxx represents the "minutes" portion of the elapsed time since the call point, and yy represents the "seconds" portion of the elapsed time. Times before the call point are prefixed with a minus sign.

NOTE

If no call point has been set, the "relative time" will be from the start of the disc.

4.2.9 Repeat playback

Use the **REPEAT** key **[26]** to enable the repeat mode as shown in the display (**REPEAT**).

The three different repeat modes available correspond to the three playback modes set with the **PLAY MODE** key **[22]** (whole disc, **SINGLE** track or **A-B** points, as set above).

NOTE

For A-B repeat to be effective, location point A must be before location point B, otherwise A-B repeat cannot take place.

4.2.10 Track search operations

While playing back, it is possible to press the **TRACK** keys **[4]** in order to move forward or backward a number of tracks, corresponding to the number of times the key is pressed.

After locating to the start of the track (the start of the track start cue point if **AUTO CUE** is off (4.2.12, "Cueing to the first audio position in a track") or the first audio frame if it is on), the deck will park in play ready mode.

Pressing the "previous" **TRACK** key at the first track will move to the last track on the disc, and pressing the "next" **TRACK** key at the last track will move to the first track on the disc.

4.2.11 Cueing the next track automatically

When playing back a single track, it is often useful to cue the next track ready for playback.

Use the **AUTO READY** key **[20]** to enable the unit to enter play ready mode automatically when the start of a track is reached. This is the start of the track as determined by the digital subcode, not the start of the audio signal, unless **AUTO CUE** is on (see 4.2.12, "Cueing to the first audio position in a track").

Depending on the play mode (when no repeat is active), the unit will enter stop mode in **SINGLE** or **A-B** play mode, and play ready in the "continue" mode, after the location has taken place.

If repeat is active, the unit will enter play ready mode at the start of the next track (**REPEAT** "continue"), the start of the track which is being repeated (**REPEAT SINGLE**) or the A repeat point (**REPEAT A-B**).

4.2.12 Cueing to the first audio position in a track

To cue the playback position to the first point where the audio level exceeds a preset threshold, make sure that playback is stopped, press the **AUTO CUE** key so that the indicator is lit, and then press the **READY** key.

The playback point will then locate to the start of the audio portion of the track (the **PLAY** indicator will flash while it is locating).

If the **AUTO CUE** indicator is lit, the playback point will automatically locate to the first audio point of the destination track when searching and locating.

There are nine "trigger" levels which may be selected through the menu system (see 3.3, "Auto cue") for the **AUTO CUE** operation. Select the appropriate level depending on the source material.

4.2.13 Varispeed mode

The MD-801 is capable of playing back material in varispeed mode.

The speed can be altered to ±9.9% relative to normal speed, and can be changed using the menu system (see 3.2, "Pitch control").

NOTE

*While the MD-801 is in varispeed mode, care must be taken that it is not set to use an external word clock (***[43]***).*

4.2.14 Jog mode

To use the **JOG** dial to locate a playback point precisely (to frame accuracy):

1. Press the **JOG** key **[11]** to light the indicator.
2. Turn the **JOG** dial **[12]** (clockwise to move the jog point forwards, counterclockwise to move it backwards). Monitoring is at normal speed. When you stop turning the **JOG** dial, the section that has been "highlighted" by the jog action will be repeatedly looped.

You can set the length of the jog loop from a menu item (see 3.5, "Jog loop length").

3. Press the **READY [7]** key to set the call point, at the end of the jog loop.
4. Locate to the call point by pressing **CALL [10]**.

NOTE

The point at which the JOG key was pressed will not be included in the jog loop. To include this point in the loop, you must turn the **JOG** *dial counterclockwise.*

4.2.15Shuttle mode

The **SHUTTLE** wheel **[13]** allows you to perform fast cue or review operations, moving forwards or backwards through the program material at high speed.

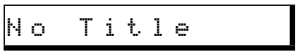
The further the wheel is moved from the central position, the faster the cue or review speed.

Since the MD-801 is a digital recorder, playback in cue and review is not continuous.

4.2.16Displaying track titles during playback

When the MD-801 is in play or play ready (or in record or record ready) mode, pressing the **TITLE** key **[16]** shows the current track title.

If the track does not have a title entered, the display briefly shows:



If the display is too long to fit on the display, it can be scrolled by pressing the **TITLE** key once more.

NOTE

If the MD-801 is in stop mode, pressing the **TITLE** *key displays the disc, rather than the current track, title. Remember also that the* **MEMO IN/CAPS** *key can also be used to affect the display (see* **[16]***).*

The entry and editing of titles is described in 5.11, "Track and disc title entry"

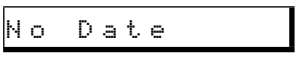
4.2.17Displaying the recording date

If the current track has been “date- and time-stamped”, the date and time can be displayed:

1 While the MD-801 is in play or play ready (or record or record ready) mode, press the **MEMO IN/CAPS** key **[23]** so that the indicator is lit.

2 Press the **TITLE** key **[16]**. The word DATE will light in the display, and the date will be shown (for example 98y 12m 25d), followed by the time (e.g. 10h 34m 12s) in 24-hour format.

If the track has not been time-stamped, the display briefly shows:



NOTE

If the MD-801 is in stop mode, this operation shows the disc's time and date, rather than those of the current track.

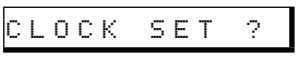
4.2.18Setting the time and date

Since the MD-801 leaves TASCAM with the date and time pre-set, there should be little need for you to set the time and date of the internal clock.

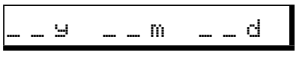
However, if you move the MD-801 across time-zones, etc., you may need to reset the date and time following the procedure below:

1 Eject any disc and power off the MD-801 (this step is not strictly necessary, but simplifies the procedure).

2 Press and hold down the **TIME** key **[17]** while turning on the power. The display shows:



3 Turn the **SHUTTLE** wheel clockwise to start setting the time and date.



4 Use the **DATA** dial as a data entry wheel, and the **SHUTTLE** wheel as a cursor to move between the year (y), month (m) and day (d) fields, as described in 3.1, "Basic principles of menu operations".

5 After entering the value for the day, turn the **SHUTTLE** wheel:

6 You can set the hours (h) and minutes (m) here.

7 When these have been entered, press the **TIME** key to set the time (the seconds value is set to zero as you press the key) and return to normal operation.

R 4.3 Recording operations

Naturally, these recording operations refer to the

MD-801R model only.

4.3.1 General notes on recording using the MD format

Because the MD method of recording is somewhat different to a linear recording method, such as tape, you should note the following points.

- The message Disc Full may appear on the display before the available recording time on the disc has all be used.

This may be because more than 255 tracks have been recorded on the disc.

- The sum of the total recorded time, and the displayed remaining available time may not equal the theoretical total capacity of the disc.

This is because of the nature of the MiniDisc track structure. At least two seconds are used for every MiniDisc track, regardless of the audio structure. In addition, “bad sectors”, caused by dirt, scratches, etc. are automatically skipped and ignored, which means that they are unavailable for recording. We always suggest that you leave some “safety net”, and do not attempt to record a program of exactly 74 minutes on an MD marked as 74 minutes.

- Erasing a track will not make the time the exact length of the erased track available for recording.

This is on account of the nature of the MD recording format, and has to do with block size, etc. If you are familiar with computer systems, you may be aware of a simiular limitation with regard to file size on some operating systems.

4.3.2 Rebuilding the TOC

It is possible to rebuild the TOC, which will free up recording space if a heavily-edited disc is being used.

1. With the MD-801 stopped, press the **EDIT** key **[18]**.
2. Turn the **DATA** dial **[12]** until the display shows:

   TOC REBUILD?

3. Turn the **SHUTTLE** wheel **[13]** clockwise to rebuild the TOC (counterclockwise to cancel the operation).
4. When the display shows Complete, and the **TOC WRITE** indicator **[19]** lights, press the **TOC WRITE** key to write the new TOC to disc.

NOTE

Depending on the condition of the disc (how many edits have been performed, etc.), it may take a considerable amount of time for the TOC to be rebuilt. In rare cases, the recording capacity of the disc may not be increased, even after the TOC has been rebuilt in this way.

- The number of tracks that have been intentionally recorded, and the number of tracks displayed may not match.

When the transport encounters dirt or scratches, etc., the current track is ended, and a new track is started. This automatically-created track is marked by the letters “Cont. !!” being added to the end of the track title. This “track” cannot be combined using the editing methods available. To avoid the occurence of such “tracks”, it is important to keep the MD media clean and dust-free.

NOTE

Every time recording is halted, the TOC is updated. As always, avoid turning off the power while the TOC is being written. In addition, you should be aware that if you have performed editing operations that you do not want to commit to disc, and then do some recording, the edit operations will be saved to disc when recording stops. You may want to eject the disc without writing the edits (see **[3]***) before recording, to avoid this situation.*

Like most other forms of recordable media, MDs incorporate a write-protect tab, which can prevent you from accidentally overwriting precious recordings. If you try recording with a disc that has had the tab set to the “protect” position (open), the display will show:

W_Protected!

If you want to record on this disc, you must eject the disc, close the write-protect tab and record again.

4.3.3 Basic recording

This gives the basic instructions on how to record. There are a number of different recording-related options which may be selected, as described elsewhere in this section.

1. Select the recording method (digital or analog) and the appropriate input source.
2. Make sure the unit is stopped.
3. Press and hold down the **RECORD** key **[8]** and press the **READY** key **[7]**.
4. Adjust the recording level (analog, **UNCAL** only) so that the meters do not read **OVER**, even in the loudest passages.
5. Start recording by pressing the **PLAY** key **[6]**.
6. When recording is finished, press the **STOP** key **[5]**.

After recording is finished, the TOC is updated.

The date is automatically recorded (as taken from the internal clock).

The **STOP** key may also be used to cancel the record ready mode entered in step 3.

4.3.4 Track number incrementing

When recording, the track numbers are incremented automatically in the following cases:

- When making digital recordings from another unit through the **COAXIAL** input **[34]**, the PQ code is used when making a recording from a CD player or an MD player, and START IDs are used when recording from a DAT.
- When making digital recordings through the **AES/EBU** input **[32]** or analog recordings, the Auto track numbering level may be used. The first time that a signal exceeding the selected threshold is encountered after recording is started, the start of a track is marked, and the track number is incremented. While recording is taking place, if the level drops below the selected threshold for three consecutive seconds or more, and then rises above the threshold, the start of a new track is marked, and the track number is incremented. See 3.13, "Auto track numbering level" for details.

When recording from AES/EBU or analog sources, the auto track numbering function may be turned off completely. There are then two options:

- Record the whole of the material in one take, and use the editing functions at a later time to divide the material into tracks.
- While recording is taking place, press the “next” **TRACK** key **[4]**. Recording will continue, but the track number is incremented by one, and the track division is written at the point where the “next” **TRACK** key was pressed.

4.3.5 “Post-Script” recording

There are two ways of cueing the disc when recording. One is “post-script” recording, where recording starts immediately following the last recorded material. Unlike a linear recorder (tape, etc.) there is no need to cue the medium to the last track.

The other is non post-script, which starts recording from the start of the disc, overwriting the whole disc, except for the title.

Post-script recording is set using the menu system, described in 3.15, "Post-script recording".

4.3.6 Replace recording

This function allows recordings to be made on an existing track, if the MD-801 is in ready mode in the middle or at the start of an existing track.

Recording in replace mode allows recording on that track. Since the MD format is non-linear, the length of the track does not matter.

Recording from the start of the track will replace the existing track, keeping the same track number and title (if any). The whole of the existing track will be erased, even if the replacement material is shorter than the existing track.

Recording from part of the way through the track will add a new track with the number of the current track plus one. If you start recording part of the way through the track, the part of the original track from the point at which recording started, to the end of the original track, will be erased, even if the new track is shorter than this portion.

NOTE

If you want to keep the start of a track on which you are making a replace recording from the middle, use the Track Divide editing function, and start replace recording from the newly-created second track. You can, of course, keep the second part by replace recording the newly-created first track.

1. Make sure that the post-script recording mode is on (3.15, "Post-script recording").

NOTE

If post-script recording is turned off, you will erase the whole disc (except for the disc title).

2. Cue the playback point to the place that you want to start recording.
3. Press the **READY** key **[7]** to put the MD-801 into play ready mode. This step is the primary difference between replace recording and ordinary post-script recording.
4. Press and hold down the **RECORD** key **[8]** and press the **READY** key. The display will show:

5. To start recording, press **PLAY [6]**. When you have finished recording, press **STOP [5]**.

If you want to cancel the recording operation after step 4, press the **STOP** key **[5]**.

NOTES

You cannot use the input monitor function before entering the replace record mode. You must stop the transport first if you want to use the record monitor function.

Many replace recording functions carried out on the same track may result in sections which it is later impossible to combine using the edit functions.

4.3.7 Sound synchro recording

With this facility, the MD-801 goes from record ready to record mode when a signal threshold is exceeded. The threshold is the same as for the Auto Cue function (4.2.12, "Cueing to the first audio position in a track") and is set in the Auto Cue menu (3.3, "Auto cue").

The facility also allows the unit to go automatically from recording to record ready mode, if the input signal drops below the threshold and stays at this lower level for five successive seconds.

1. Make sure the MD-801 is recording or in record ready mode.
2. Use the "previous" **TRACK** key **[4]** to toggle between turning the Sound Synchro function on and off (the screen below shows it turned on).

If the MD-801 is in record ready mode, start playing the source. As soon as the signal level goes above the threshold, the MD-801 will go from record ready to record mode.

If the MD-801 is in record mode, it will drop back to record ready mode as soon as a period of relative silence of more than five seconds in length is detected. Recording will start again as soon as a signal which is over the threshold is detected again, and the Sound Synchro mode is still on.

NOTE

If the Sound Synchro mode is on, and a manual change is made from record ready to record (or the other way round), the Sound Synchro mode is automatically turned off.

4.3.8 Digital recording

Since the MD-801 incorporates a frequency convertor, digital recordings can be made from a wide variety of sources, including sources played back at non-standard frequencies (varispeed and pitch shifting are therefore possible).

1. Set the **INPUT** selection switch **[28]** to **DIGITAL**.
2. Set the **DIGITAL INPUT** selection switch **[29]** to either **AES/EBU** or **COAXIAL**, depending on the source.

NOTE

When recording from a digital source, remember that the input level controls **[27]** *have no effect.*

3. If you require mono recording (uses the left channel only, and doubles the available recording time), set the **REC MODE** switch **[30]** to **MONO**, otherwise, make sure it is set to **STEREO**.
4. Press and hold down the **RECORD** key **[8]** and press the **READY** key.
5. Start recording by pressing the **PLAY** key **[6]**, and finish by pressing the **STOP** key **[5]**.

NOTES

If the selected digital input is not correctly connected, or is not present, the D-IN UNLOCK! *message will appear on the display to inform you of this.*

If the digital input signal is interrupted and resumes within 30 seconds of the interruption, a new track will be started on the MD-801, with a number that is one higher than the pre-

vious one. If the digital signal is not resumed within 30 seconds of interruption, recording will stop.

As mentioned earlier, 4.3.4, "Track number incrementing", when digital recordings are made through the **COAXIAL** *inputs, track numbers are incremented automatically as PQ code is read from CD or MD, or START IDs are read from DAT. However, if a source track is less than three seconds in length, a new track will probably not be started on the MD-801.*

4.3.9 Analog recording

1. Set the **INPUT** selection switch **[28]** to **ANALOG**.
2. Set the **ANALOG INPUT** switch **[31]** to **UNCAL** or **CAL**.

UNCAL enables the input level controls, while **CAL** disables them, and inputs the analog signal “as given”. In this case, a signal input received at nominal level (+ 4dB in the case of the balanced inputs[1], and –10 dB in the case of the unbalanced inputs) will register –16 dB. You should take care that analog signals never go more than 16 dB above the nominal level, or clipping will occur.

If your program material includes such passages, re suggest that you use the **UNCAL** setting, and attenuate the signal a little using the input level controls.

3. If you require mono recording (combines the left and right channels, and doubles the available recording time), set the **REC MODE** switch **[30]** to **MONO**, otherwise, make sure it is set to **STEREO**.
4. Press and hold down the **RECORD** key **[8]** and press the **READY** key.
5. Start recording by pressing the **PLAY** key **[6]**, and finish by pressing the **STOP** key **[5]**.

Track numbering is incremented as described in 4.3.4, "Track number incrementing".

1. Provided that the trimmer potentiometers at the balanced inputs have been left in the position as shipped from the factory. If these settings have been changed, the reference level will be altered accordingly.

4.3.10 Track title copying together with audio

This is a special case when making copies between two MD-801 units. Titles may be copied in either the analog or the digital copying modes.

A special optional cable (PW-1XMD) is required, to link the two serial ports of the two units **[45]**. Set up the serial communication parameters to the default values, as described in 3.11, "Serial communications", with the baud rate set to 9600.

Apart from ensuring that this connection is made, there are no special settings to be made on the master (source) unit.

To copy titles along with the audio data:

1. Put the slave unit into record ready mode.
2. Press the **RECORD** key (again on the slave unit). The display shows:

3. Use the **RECORD** key to toggle this mode between on and off.
4. The title will now be copied automatically when the mode is set to on, and the track number on the slave is incremented (see 4.3.4, "Track number incrementing" for details of when tracks are incremented).

   In addition, you can copy the title of the current track of the master unit by pressing **RECORD** on the slave unit when it is in record mode, and the track title copy mode is on.

   The Sound Synchro function (see 4.3.7, "Sound synchro recording") can be used for automatically putting the slave unit from record ready to record when the master unit’s audio level exceeds a threshold.

NOTE

Tracks of less than seven seconds in length cannot have their titles copied automatically in this way. You will have to copy the titles manually in these cases.

For information regarding the copying of disc titles between MD-801 units using the serial link, see 5.11.6, "Copying disc and track titles".

Unlike tape or other linear media, the MD-801 provides you with a wide range of editing tools, allowing you to make arbitary cuts, “splices” and rearrangements of running order without having to re-record any parts of the material.

Although the editing operations you perform will take effect instantly, unless they are written to disc as part of the User Table of Contents (U-TOC), they will not take any effect when the disc is next used (or inserted in another machine), as “splices”, etc. are virtual, and do not actually represent cuts in the material.

The U-TOC contains all the information that is read by the MD-801 in order to know what parts of the disc should be played, and in what order.

For that reason, it is important that you never turn off the MD-801 while it is writing the U-TOC to disc. If you do this, you will probably be unable to use the disc in the future.

5.1 Basic editing operations

1 To start an editing operation, press the **EDIT** key **[18]** and the `EDIT` indicator will light in the display.

2 Select the editing operation using the **DATA** dial **[12]**.

3 When the editing operation is complete (the exact steps are described in the individual sections below), turn the **SHUTTLE** wheel **[13]** to complete the operation and return to normal mode.

After an editing operation, the **TOC WRITE** indicator **[19]** will light, and the display `TOC EDIT` will light, showing that there are editing changes made which have not been saved to disc.

4 Commit the editing operation to disc by pressing the **TOC WRITE** key **[19]**.

NOTE

A disc must not be write-protected when saving edits to disc. The display shows `W_Protected!` *if you attempt to write a U-TOC to a protected disc. By ejecting the disc you lose the edits you have made, so you should make sure that a disc on which you want to save edits is write enabled* ***before*** *you start the editing process.*

After most editing operations, the MD-801 enters the play ready mode.

5.1.1 Cancelling an edit operation

If you wish to cancel an edit operation at any time before step 3 above, do any of the following:

- turn the **SHUTTLE** wheel counterclockwise
- press the **STOP** key **[5]**
- press the **EDIT** key

5.1.2 Editing without saving the edits to disc

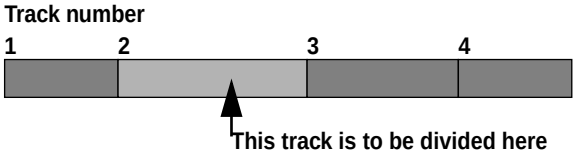
If you want to make edits, but do not want to commit them to disc, you can do either of the following:

- turn off the power to the MD-801
- press the **EJECT** key once, and press it again, after the `TOC Edited!` message appears on the display

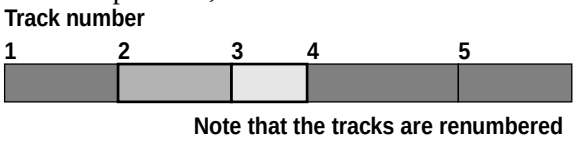
5.2 Dividing tracks

Use this editing function to split one track into two. This operation can be carried out while the MD-801 is in play ready mode.

Before the operation to split track 2, the tracks and numbers look like:



After the operation, the tracks will look like:



1 Locate the playback position so that it is at the point where you want to divide the track. Press the **READY** key **[7]** to put the MD-801 into play ready mode.

2 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

```
DIVIDE ?
```

3 Turn the **SHUTTLE** wheel clockwise.

```
Point OK?
```

4 A jog loop will start playing. Adjust the jog loop using the **JOG/DATA** dial, so that the start

of the loop is the point at which you want to divide the track.

NOTE

You can set the length of the jog loop in the menu system (see 3.5, "Jog loop length").

5 When the start of the jog loop is correctly positioned, turn the **SHUTTLE** wheel clockwise. The display shows `Now Editing`, and `Complete` when the editing operation has finished.

The track title of the first track created by the division process will have the same title as the original track (before the division took place). The second track will be untitled.

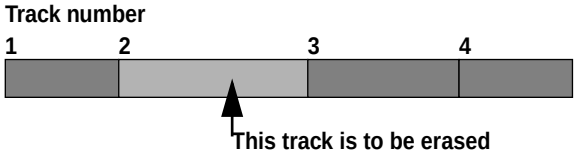
NOTE

If the divide point is set to a track boundary (the start of a track), the display will show an error message (`Not Execute!`) when the **SHUTTLE** *wheel is turned in step 4 above.*

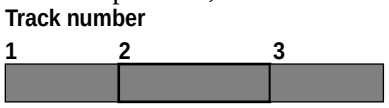
5.3 Erasing a track

This operation erases a track and frees the space for further recording.

Before this edit operation, the tracks and numbers look like:



After the operation, the tracks and numbers look like:



Note that the tracks following the erased tracks are automatically renumbered, so that the numbering sequence is contiguous.

Tracks can be erased while the MD-801 is stopped, or in play, or in play ready mode.

1 Set the playback position at the track to be erased (use the **TRACK** keys or any other convenient way of locating to the track).

2 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

```
ERASE TRK ?
```

3 Turn the **SHUTTLE** wheel clockwise to change the display:

```
Track OK ?
```

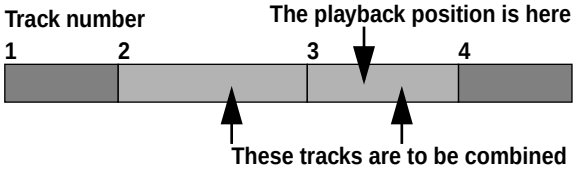
4 If you want to change the track to be erased at this stage, you can use the **TRACK** keys to change the current track.

5 Turn the **SHUTTLE** wheel clockwise to erase the track. The display shows `Now Editing`, and `Complete` when the erase operation is finished.

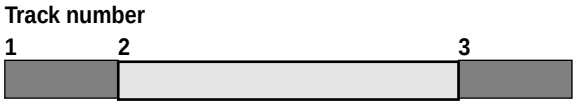
5.4 Combining tracks

This editing function allows you to combine a track with the previous track. It is not possible to combine two non-adjacent tracks (but you can move such tracks and then combine them—see 5.5, "Moving tracks").

Before the combine operation, the tracks and numbers look like:



After the combine operation, they look like:



Note that the following tracks are renumbered to provide a contiguous sequence.

1 Use the **TRACK** keys, or any other convenient method, to select the second track of the pair to be combined (the selected track will be combined with the one before it).

2 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

```
COMBINE ?
```

3 Turn the SHUTTLE wheel clockwise to enter the rehearsal mode:

```
Rehearsal
```

The **PLAY** indicator above the **PLAY** key will flash, as will the **EDIT** indication in the display, to show that rehearsal mode has been entered.

In this rehearsal mode, the last 4 seconds (approximately) of the previous track and the first four seconds (approximately) of the current track are continuously repeated, so that you can audition the "join" between the tracks.

4 At this point, it is still possible to use the **TRACK** keys to select another track to be combined. This newly-selected track will be combined with the track immediately before the new selection.

5 Turn the **SHUTTLE** wheel clockwise to combine the tracks. The display will show `Now Editing`, followed by `Complete.`

The track number of the first combined track (i.e. the track immediately before the track selected prior to the combine operation) is used for the combined track.

The title of the second track is appended to that of the first track.

NOTES

Selecting the first track and attempting a combine operation will result in the message `TRK Illegal!` *being shown on the display—it is not possible to combine the first and last tracks.*

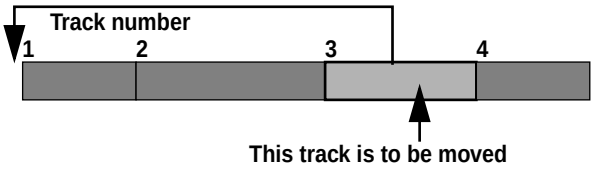
Mono and stereo tracks cannot be combined.

In some cases where an MD has had many edit operations performed, the `Cannot EDIT!` *message may appear on the display. This does not indicate a fault with the disc or the machine, but is a property of the MD recording system.*

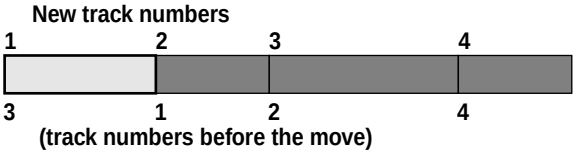
5.5 Moving tracks

This function allows you to edit the running order of the tracks, and re-place a track in a different position. This can also be used with the combine function (5.4, "Combining tracks") in order to combine non-contiguous tracks.

Before a move operation, the tracks and numbers look like:



Following the move operation, the tracks look like:



The "gap" is closed up, and all tracks are re-numbered in the new sequence. A move operation can be carried out in the stop, play ready or play modes.

1 Use the **TRACK** keys, or any convenient method, to select the track to be moved.

2 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

`MOVE ?`

3 Turn the **SHUTTLE** wheel clockwise to open the move menu. The display will show:

`Move to 001?`

The three numeric digits indicate the track number that the current track will occupy after the move operation.

4 Use the **DATA** dial to change the destination track number.

5 Turn the **SHUTTLE** wheel clockwise. The display will show `Now Editing`, followed by `Complete.`

All tracks will be automatically renumbered.

NOTE

You cannot move a track to itself, e.g. if you have selected track 1, the destination number cannot be `001`*. The display will show a* `Not Execute` *message if you attempt this.*

5.6 A and B point erase operations

The two location points (see 4.2.6, "Playback between two location points") can be used for a variety of erasure purposes. Although the basic principle

of operation is the same, the function is so flexible that it can be used for many different purposes.

In order to be used for editing in this way, the following conditions must be met:

- Point A must not be at the same location as point B
- At least one of the two points must be marked
- Point B must come after point A

If any of these conditions are not met, the display will show `A-B Error!`.

The A and B points do not have to be in the same track.

All A-B operations are carried out in the same way:

1 Set the A and B points (4.2.5, "Entering the A and B location points").

2 In stop, play or play ready mode, after pressing the **EDIT** key, turn the **DATA** dial until the display reads:

`ERASE A-B ?`

3 Turn the **SHUTTLE** wheel to enter rehearsal mode.

`Rehearsal`

The above message alternates with `Erase OK ?`, and the **EDIT** indicator in the display flashes.

The rehearsal mode continuously plays from a position about four seconds before the A point, and about 4 seconds after the B point. This allows you to preview the “splice”.

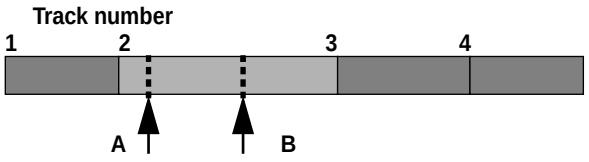
4 Turn the **SHUTTLE** wheel to confirm the erase process.

After the operation is complete, if the A point has been set, it is erased (the indicator goes out).

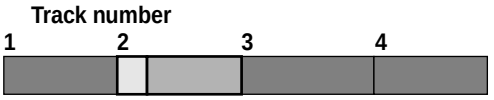
The B point will be at the position where the erase took place.

5.6.1 Normal A-B erase

In this editing operation, both the A and B points are set within the same track.

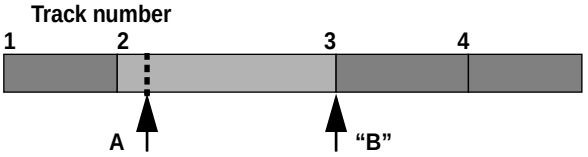


All data between these points is erased.

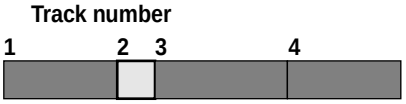


5.6.2 Erasing to the end of a track

If only point A is marked, the end of the track containing point A is regarded as point B.

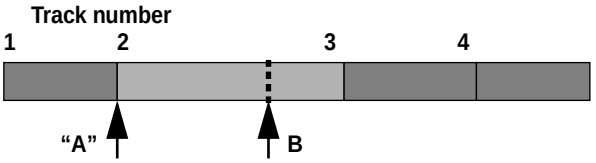


This provides a convenient way to delete from a marked point to the end of the track.



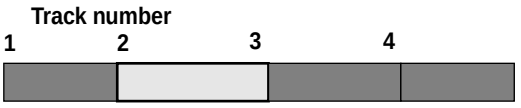
5.6.3 Erasing from the start of a track

If only point B is marked, the start of the track containing point B is regarded as point A.



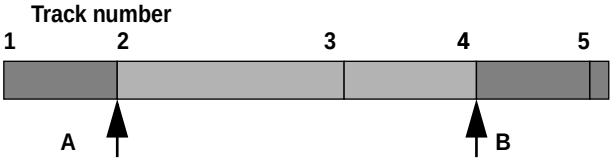
This provides a convenient way in which data can be erased from the start of a track only.

In addition, the AUTO CUE function (4.2.12, "Cueing to the first audio position in a track") can be used to cue precisely to the start of the audio in a track. If this location is then marked as point B, all “dead time” at the start of the track up to the audio start can be eliminated.

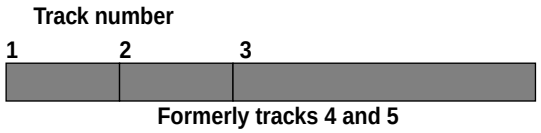


5.6.4 Erasing more than one track at a time

If the A and B marks are set in different tracks, all material between the A and B points will be erased.



If the A point is set at the start of a track, and the B point at the end of another track, the whole of the tracks containing and between these points will be erased (in the example above, tracks 2 and 3 will be erased.



The remaining tracks will be automatically renumbered to form a continuous sequence.

NOTE

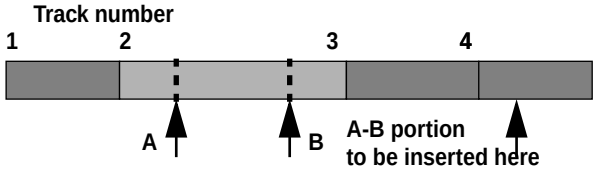
It is not possible to erase the last track on the disc using this method. You must use the track erase function (see 5.3, "Erasing a track") for this purpose.

5.6.5 Retaining a track title for use by the second track after a division

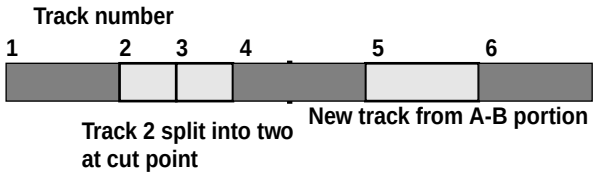
As explained earlier (5.2, "Dividing tracks"), when a track is divided, the earlier of the newly-created pair of tracks contains the song title. If you are using the track division to eliminate lead-in times, this would mean that the unwanted lead-in kept the title and the program material was untitled. To avoid this, use the A-B erase function (without setting the A point) to retain the title for the remaining part of the track.

5.7 Moving an A-B point

This is the electronic equivalent of a razor-blade and splicing tape. A section of material can be marked, and moved to almost any part of the disc.



After the operation, the layout will be:



This operation can be performed in stop. play ready, or play modes.

The same conditions apply with regard to the A and B points as apply when erasing material betwen them:

- Point A must not be at the same location as point B
- At least one of the two points must be marked
- Point B must come after point A

If any of these conditions are not met, the display will show `A-B Error!`.

1 Mark the A and B points.

2 Press the **EDIT** key, and turn the **DATA** dial until the display shows

```
INSERT A-B ?
```

3 Turn the **SHUTTLE** wheel clockwise. The display will change:

```
INSR PT OK ?
```

The MD-801 will keep looping the point at which the insertion is to take place (the insertion point is at the end of the loop). Use the **JOG** dial (it is not a data dial at this point) to alter the position of the insertion point.

4 Turn the **SHUTTLE** wheel clockwise once more, and the display will change (alternating with the word `Rehearsal`, while the **EDIT** indicator lights in the display:

```
IN PT OK ?
```

The playback will now loop from a point about four seconds before the insertion point to a point about four seconds after the A point. This allows you to preview the effect of the “punch-in” join between the original material and the A-B portion being moved.

5 Press the **LOC B** key **[24]** while this rehearsal process is taking place. The display will change:

```
OUT PT OK ?
```

The playback loop now changes so that the loop starts about four seconds before the B point, and ends about four seconds after the insert point. This allows you to preview the effect of the “punch-out” between the A-B portion being moved and the original material.

6 Turn the **SHUTTLE** wheel clockwise to make the edit. The display will show `Now Editing`, followed by `Complete`. The A-B section becomes a new track. The point from which the A-B section was moved also becomes a track break, and all track num-

bers are renumbered accordingly. See the diagram above for an example.

If you need to make the new track (formerly the A-B portion) into part of the preceding and/or following track, use the track combine facility (see 5.4, "Combining tracks") to turn these tracks into one track.

The A and B points are lost after this edit operation, and will have to be re-entered if they are to be used again.

You can cancel the operation at any time in the usual way (**SHUTTLE** wheel counterclockwise, **EDIT** key or **STOP** key).

NOTE

You cannot move the A-B portion inside itself (i.e. the insert point cannot be between the A point and the B point).

5.8 Restoring erased material

A track or section erased can be unerased. This is an “all or nothing”-type process—all tracks and sections deleted are restored, and it is not possible to restore only one of these tracks or sections.

In addition, if tracks or sections are restored, the audio data only is restored—the titles and recording dates are not restored, but a title such as `RST.001` will be automatically given, showing that this is a restored track. The tracks restored in a single operation start numbering at 001, regardless of any other track titles with the same number that were on the disc before the operation.

This function can also be used in an emergency, if recording was taking place, and power to the unit was cut off part of the way through the recording process. In this event, data on the disc will be present, but will not be organized with the TOC and will hence be inaccessible. This function may allow the data to be accessed after the restore operation has been performed.

However, there are occasions on which this function does not restore such data, and the `Not. Execute!` message will appear..

NOTES

Tracks and sections of less than 12 seconds in length may not be restored.

When restoring a track or tracks, the last restored track will have the unused portion of the disc automatically appended to it. This will result in a `Disc Full` *error message if you try to record on the disc.*

To overcome this problem, split the new long track at the end of the recorded section, and delete the new track which consists of the unused part of the disc.

When restoring recordings that have been interrupted, the time shown on the display may disappear from the display at the point at which the power was cut. This is a normal function, and you should not be concerned if this happens. You may want to use this as the position to divide the new "long" track into two before deleting the unwanted part, as described above.

If a track or section occupies a part of the disc which has been overwritten by a new recording, the older section cannot be restored—the data is no longer available.

This operation can take place in stop, play ready or play mode.

1 Press the **EDIT** key, and turn the **DATA** dial until the display shows:

2 Turn the **SHUTTLE** wheel clockwise to restore deleted data.

The display may show `Not. Execute!`. Here, this means that the disc has no material recorded on it which has been erased (there may even be no material at all recorded on it).

5.9 Changing track attributes

After a track has been restored in the way described above, it may have the wrong attribute assigned to it (it may be restored as mono when it was originally stereo, or *vice versa*). This function allows you to restore the correct attribute.

1 Use the **TRACK** keys or any other convenient method to select the track whose attributes you wish to change.

2 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

3 Turn the **SHUTTLE** wheel clockwise. The display changes:

```
Track OK ?
```

4 Turn the **SHUTTLE** wheel clockwise once again to change the current track from mono to stereo or *vice versa*.

The display will show `Now Editing`, followed by `Complete`.

This function may also be used to “un-protect” a track if the following message appears at any time in the edit mode:

```
T_Protected!
```

This signifies that the track cannot be edited. This is software protection, which has been set by an MD unit other than an MD-801, and it can be disabled using this function in the way described above.

NOTE

If a track is “unprotected” in this way, it cannot be protected again.

5.10 Erasing a complete disc

As well as erasing individual tracks (see 5.3, "Erasing a track"), it is also possible to erase the entire contents of a disc.

1 After pressing the **EDIT** key, turn the **DATA** dial until the display shows:

```
ERASE DISC ?
```

2 Turn the **SHUTTLE** wheel clockwise to enter this edit menu:

```
Sure ?
```

3 If you are sure that you want to erase the contents of the disc, turn the **SHUTTLE** wheel clockwise once more.

The display will show `Now Editing`, followed by `Complete`, followed by `Blank Disc`.

If you want to abort the erase process, use the usual methods (**SHUTTLE** wheel counterclockwise, **EDIT** key or **STOP** key).

5.11 Track and disc title entry

The disc and tracks can be titled. The titles can consist of upper- and lowercase letters, numbers, and punctuation symbols (as well as Japanese *katakana*).

Each title can be up to 99 characters long, and titles too long to fit on the display are scrolled.

The total number of characters which can be included as titles on a disc (disc and track titles) is 1,792 characters.

A computer keyboard (PS/2 compatible) can be attached to the MD-801, and used to input titles, or titles can be entered, using the procedure described below (for keyboard operations, see 6, "Use of a keyboard with the MD-801").

Titles can be entered in stop (disc titles), play or play ready (track titles) mode as well as in the record and record ready modes.

1 Press the **EDIT** key and turn the **DATA** dial until the display shows:

```
TITLE ?
```

2 Turn the **SHUTTLE** wheel clockwise.

If the MD-801 is in stop mode, the words **DISC TITLE** will light in the display, and you can enter the title for the whole disc.

If the MD-801 is in play or play ready mode, or record or record ready mode, the words **TRACK TITLE** will light in the display, and you can enter the title for the current track.

3 The display will change:

```
_
```

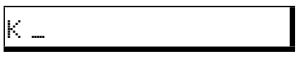
The underline cursor shows where the character will be entered.

4 Use the **DATA** dial to scroll through the symbol set. The character set selected initially is the lowercase alphabet set, together with numbers and punctuation symbols.

5 Use the **MEMO IN/CAPS** key **[23]** to change between lowercase and uppercase characters. If uppercase characters are selected, the **CAPS** indicator will light in the display.

6 Turn the **SHUTTLE** wheel clockwise to move the cursor to the right, and counterclockwise to move it to the left. Continuing to hold the **SHUTTLE** wheel away from the center posi-

tion will move the cursor more than one position.



7 Continue using the **DATA** dial and **SHUTTLE** wheel to enter characters, until the title is complete.

8 To store the title, press the **EDIT** key. The title will scroll across the display if it is too long to fit on one line, allowing you to check it.

NOTES

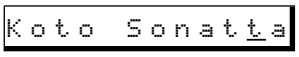
If the display shows `Name Full`*, it means that the character limit for a title (99 characters) or for a disc (1,792 characters) has been exceeded.*

If a disc has been titled on another MD recorder, which permits longer titles than those permitted by the MD-801, the titles, when edited on the MD-801, are subject to the same limitations as those imposed on "native" titles.

5.11.1Deleting characters

If a character is entered in error, delete it as follows:

1 Move the cursor under the character to be deleted:

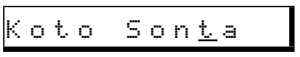


2 Press the **LOC A/DEL** key **[24]**. The character at the cursor position will be deleted.

5.11.2Inserting characters

If you have missed out a character, insert a space for a new character in the following way:

1 Move the cursor to the character following the position where a character is to be inserted:



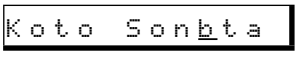
2 Press the **LOC B/INS** key **[24]**. A space will appear into which you can enter a character:

5.11.3Changing characters

If a character has been wrongly entered, you can change it by moving the cursor to the character, and turning the **DATA** dial.

Thus:

can be corrected by moving the cursor to the `b`:



and then turning the **DATA** dial counterclockwise:

5.11.4Editing existing titles

If a title has already been entered, for a disc or for a track, pressing the **EDIT** key and turning the **DATA** dial until `TITLE ?` is displayed allows you to edit it, to change characters, and insert or delete characters as described above.

In stop mode, the disc title can be edited.

In play mode or play ready mode, the title of the current track can be edited.

5.11.5Viewing titles

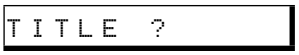
As explained earlier (4.2.16, "Displaying track titles during playback"), pressing the **TITLE** key during playback will display the disc title (in stop mode) and the current track title (in play or play ready mode).

If the title is too long to fit in the display, pressing the **TITLE** key once more will scroll it across the display.

5.11.6Copying disc and track titles

When two MD-801 units are connected together using the optional PW-1XMD serial cable, disc and track titles can be copied from one unit (master) to the other (slave), as described in 4.3.10, "Track title copying together with audio", with the following procedure.

1 After pressing the **EDIT** key on the slave unit, turn the **DATA** dial until the display shows:



2 Turn the **SHUTTLE** wheel clockwise.

If the master MD-801 is in stop mode, the **DISC TITLE** indicator will light in the display, and you can copy the title for the whole disc.

If the master MD-801 is in play or play mode, the **TRACK TITLE** indicator will light in the display, and you can copy the title for the current track.

3 The display will change:

4 With both units in stop mode, press the **CALL** key **[10]** on the slave unit.

The title currently displayed on the master unit (in this case, the disc title) is copied to the slave unit.

NOTE

Track titles can also be copied in this way, as well as using the method described in 4.3.10, "Track title copying together with audio", as long as the master unit is in play or play ready mode.

The MD-801 can be controlled by a number of different sources, including the PS/2 keyboard described in 6, "Use of a keyboard with the MD-801". In addition, the **REMOTE (SERIAL) [45]** and **REMOTE (PARALLEL)** connectors **[47]** can be used to connect compatible equipment, and the **REMOTE CONTROL** terminal **[46]** allows connection of an optional TASCAM RC-801 or RC-FS10/20 remote control unit.

NOTE

Do not connect any unit to the **REMOTE CONTROL** *terminal other than a TASCAM remote control unit specifically designed for use with the MD-801.*

In addition, the MD-801 may be “fader started” using a pin on the **REMOTE (PARALLEL)** connector (see 7.1.2, "Fader start").

7.1 REMOTE (PARALLEL) connector

The following gives the pinouts of the **REMOTE (PARALLEL)** connector **[47]**:

Pin number	Assignment	Function
1	PLAY	PLAY Command
2	TRACK NEXT	Track Next Command
3	TRACK PREV	Track Previous Command
4	READY	READY Command
5	STOP	STOP Command
R 6	RECORD	RECORD Command
7	AUTO CUE	AUTO CUE Command
8	FADER START	FADER START Command
9	AUTO READY	AUTO READY Command
10	CALL	CALL Command
11	PLAY	PLAY Tally
12	READY	READY Tally
13	AUTO READY	AUTO READY Tally
14	STOP	STOP Tally
R 15	RECORD	RECORD Tally
16	AUTO CUE	AUTO CUE Tally
17	ONLINE	ONLINE Tally
18	TIME SEARCH	TIME SEARCH Tally
19	—	Reserved
20	EOM	End of Message Tally
21	PROGRAM	PROGRAM Tally
22	PROGRAM	PROGRAM Command
23	KEY_0	Numeric key (0) Command
24	KEY_1	Numeric key (1) Command
25	KEY_2	Numeric key (2) Command
26	KEY_3	Numeric key (3) Command
27	KEY_4	Numeric key (4) Command
28	KEY_5	Numeric key (5) Command
29	KEY_6	Numeric key (6) Command
30	KEY_7	Numeric key (7) Command
31	KEY_8	Numeric key (8) Command
32	KEY_9	Numeric key (9) Command
33	CLEAR	CLEAR Command
34	ENTER	ENTER Command
35	DISC IN	DISC IN Tally
36	GND	GND
37	+5V	+5V

All of the Command inputs are active when low. In order to activate them, they must be brought to ground level for 50 ms or longer.

The ONLINE Tally pin (17) becomes active when a play command is received from any of the following:

- the ONLINE function of the RC-801 remote control unit
- the RC-8 remote control unit,
- play command issued to either the **REMOTE (PARALLEL)** or **REMOTE (SERIAL)** connector
- a PS/2 keyboard

R The RECORD Command (pin 6). If this command is received, the MD-801enters Input Monitor mode. To start recording, the RECORD and PLAY Commands must be transmitted simultaneously (pins 6 and 11).

7.1.1 Tally indicators

The Tally pins of the **REMOTE (PARALLEL)** connector may be used to connect LEDs, etc. for visual remote indication of the status of the functions which are associated with these pins.

NOTE

The tally outputs are open collectors, with the maximum load current being 20 mA and the maximum voltage being 30 V. Take care not to overload these pins: the maximum supply current is 100 mA.

R While the MD-801 is in input monitor mode, the RECORD Tally signal (pin 15) will provide a flashing tally light (see below).

For details of the timing of the EOM tally signal (pin 20), see 3.7, "EOM disc" and 3.8, "EOM track".

7.1.2 Fader start

Pin 8 is a special case. If this input is brought low (for more than 50 ms), playback starts. If it is brought back to the high state, playback stops.

This makes it suitable for connection to any switching mechanism such as the fader start outputs on a mixing console, or an edit controller, which connect this pin to ground when active.

Note that the Incremental Play function (see 3.10, "Incremental play") can be used to cue the start of the next track automatically when the fader play pin goes high (i.e. playback is stopped).

7.1.3 Sequential playback and recording

Using the **REMOTE (PARALLEL)** connectors to "daisy-chain" a number of MD-801 units, it is possible to use the EOM message (as described in 3.7, "EOM disc") to start playback or recording on one unit automatically when the end of the disc is reached on the first unit.

- Before doing this, you should make sure that the value in the EOM track menu is set to off (see 3.8, "EOM track"), and that the EOM disc value is set to over 60 seconds (see 3.7, "EOM disc").

To connect two units for sequential playback, connect the End of Message Tally (pin 20) of the first unit to the PLAY Command pin (pin 1) of the second unit. You should also link together the two ground pins (pin 36).

This ensures that when the End of Message tally signal is output from the first unit, it will trigger a play action in the second, allowing continuous playback of very long programs.

R To enable continuous sequential recording, connect together the **REMOTE (PARALLEL)** connectors of two MD-801R units in the following way:

The End of Message Tally (pin 20) of the first unit should be connected to both the PLAY Command (pin 1) and the RECORD Command (pin 6) pins of the second unit's **REMOTE (PARALLEL)** connector. The two ground pins (pin 36) should also be connected.

It is also possible to connect the End of Message Tally pin of the second unit to the appropriate pin(s) of a third unit, and so on.

Note that if a disc is scratched or damaged, it may not be possible to perform the sequential playback or recording operation.

This section provides reference material concerning the error and informational messages that may appear on the display of the MD-801 under certain circumstances, as well as the specifications of the unit.

8.1 Error messages and troubleshooting guide

Any troubleshooting remedies suggested here are ones you can perform yourself. If you cannot cure a problem by following the suggestions here, contact your TASCAM dealer.

The MD-801 is a precision piece of engineering, and there are no user-servicable parts inside. Do not attempt to make any repairs to the MD-801.

The messages here are arranged in alphabetical order for easy reference.

Message	Meaning and possible remedy
A-B Error!	An error has occurred with regard to the setting of the A and B location points (they are at the same position, A follows B, etc. Consult the relevant part of this manual to see what restrictions are placed on the A-B loop for the operation you are attempting.
Cannot EDIT!	The edit operation you just attempted cannot be carried out. Try again with another disc.
R Cannot REC!	For various reasons, the MD-801 is unable to record. Turn off the power to all units, recheck connections, etc. wait a few seconds, turn on the units and try again. If this problem persists, contact your TASCAM dealer.
R D-IN UNLOCK!	The digital audio source selected for recording was not available. Re-check the connections, etc. to the MD-801.
Disc Error!	The disc inserted is of the wrong type (it may be an MD data disc) or the U-TOC has become damaged or is otherwise unreadable. Try again with another disc.
Disc Full!	You are trying to record or split a track on a disc where there is no space. Note that if the U-TOC is complicated, even though the total length of the recorded tracks may be less than the nominal length of the disc, this message may appear.
Eject Error!	The disc cannot be ejected properly. Switch off the unit, wait a few seconds, turn on the unit again and retry ejecting the disc. If this fails, contact your TASCAM dealer.
EXT_CLK Err!	No external word clock could be found, when one was expected. Check the connections to the word clock.
InsPT Error!	You are attempting to insert at an illegal point (see 5.7, "Moving an A-B point")
Load Error!	The MD-801 was unable to read the disc when it was loaded. Eject the disc and try again. If the problem persists, try cleaning the drive lens using a commercial MD lens-cleaning kit.
Name Full!!	The title you have tried to enter exceeds the limit for an individual title, or for the total number of characters that may be stored on a disc (see 5.11, "Track and disc title entry")
NO BU-801!!	You have attempted to use the flash start function, without the optional RAM buffer (BU-801) being installed (see 6.3, "Flash start")
NO CALL PT!!	You have attempted to perform a call point operation, without having set the call point first (see 4.2.7, "The CALL function")

	Message	Meaning and possible remedy
R	Not Audio!!	No digital audio is available when recording. Check the source disc.
	Not Execute!	You attempted to perform an invalid editing operation. Read this manual to see what you might have done to cause this error message to appear.
	PGM Empty!!	You are attempting programmed playback with no program steps specified.
	PGM Full!!	You have attempted programmed playback with more than the maximum permissible number of tracks (see 6.2.1, "Entering programmed playback").
R	PLL UNLOCK!	This indicates a system error. Try again with another disc. If the error persists, contact your TASCAM dealer.
	Ready Error!	An error occurred while loading the flash start buffer from disc (see 6.3, "Flash start"). Try loading the buffer again. If this error persists, try with another disc and check the installation of the optional BU-801 RAM buffer.
R	Rec Error!	Some error occurred while recording. This resulted in the recording process being stopped. Try again, using another disc.
	Servo Error!	A disc error has occurred. Eject the disc and try again, or try with a different disc. If this error persists, contact your TASCAM dealer.
	T_Protected!	The track has been protected, and cannot be written. Unprotect the track using the procedure described in 5.9, "Changing track attributes".
	TOC Edited!	Not an error message—this message is shown when you try to eject a disc with changes made to the TOC (see the **EJECT** key explanation—**[3]**).
	TRK Illegal!	You have specified an illegal track number for an operation. Make sure that the track number matches the number of tracks on the disc, and that the track is a valid track for the operation you are attempting (i.e. it is not the first or the last track for some operations).
R	UTOC Fixed!	The U-TOC was found to be defective, but the MD-801 successfully attempted a repair. This restored U-TOC was not saved to disc before a recording operation was attempted, causing this error to be displayed.
	UTOC Full!	The U-TOC is too full (complex) for you to save the edits that you have just made. You may want to clean up the U-TOC (see 4.3.2, "Rebuilding the TOC").
	W_Protected!	You have attempted a record or edit operation on a write-protected disc.
	Write Fail!	The U-TOC could not be written. Try loading another disc to see if the error is in the disk or in the MD-801

8.2 Specifications

Changes in specifications and features may be made without notice or obligation.

In the following specifications, 0 dBV is referenced to 1 volt, and 0 dBu is referenced to 0.775 Vrms.

8.2.1 General MiniDisc

Format	MiniDisc (MD) format, 2-channel stereo or mono using audio MiniDisc
R Recording method	Magnetic field modulation overwriting
R Maximum recording time	74 minutes (stereo), 148 minutes (monaural)
Sampling frequency	44.1 kHz
Compression system	ATRAC (Adaptive Transform Acoustic Coding)
Modulation system	EFM (Eight-to-Fourteen Modulation)

Error correction	ACIRC (Advanced Cross Interleave Reed-Solomon Code)
Frequency response	20 Hz – 20 kHz ±0.5 dB
Signal-to-noise ratio (playback)	>101 dB (1 kHz/weighted A)
R Signal-to-noise ratio (recording)	> 94 dB (1 kHz/weighted A)
THD	< 0.006%
Wow and flutter	Unmeasurable
Pitch control	±9.9% (in 0.1% steps)
Playback rise time (from play ready mode)	< 0.1s

8.2.2 Analog I/O

Balanced outputs (**LINE**)	XLR-3-32 type, nominal +4 dBu, full-scale –16 dB Maximum output level: +24 dBu Nominal impedance: 11 Ω Trimmer potentiometer allows 11 dB adjustment (–7 dB cut to +4 dB boost)
Unbalanced outputs (**MONITOR**)	RCA pin jacks, nominal –10 dBV ±1 dB, full-scale –16 dB Maximum output level: +6 dBV Nominal impedance: 220 Ω
Headphones (**PHONES**)	1/4" stereo jack Maximum output level: 50 mW + 50 mW Impedance: 32 Ω
R Balanced inputs	XLR-3-31 type, nominal +4 dBu, full-scale –16 dB Maximum input level: +24 dBu Nominal impedance: 2.2 kΩ Trimmer potentiometer allows 11 dB adjustment (–4 dB cut to +7 dB boost)
R Unbalanced inputs	RCA pin jacks, nominal –10 dBV, full-scale –16 dB Maximum input level: +6 dBV Nominal impedance: 8 kΩ

8.2.3 Digital I/O

AES/EBU output	XLR-3-32 type, AES3-1992 format
COAXIAL output	RCA pin jack, IEC60958 (consumer) format (SPDIF)
R **AES/EBU** input	XLR-3-31 type, AES3-1992 format. Valid sampling frequencies from <32 kHz to 48 kHz
R **COAXIAL** input	RCA pin jack, IEC60958 (consumer) format (SPDIF). Valid sampling frequencies from <32 kHz to 48 kHz

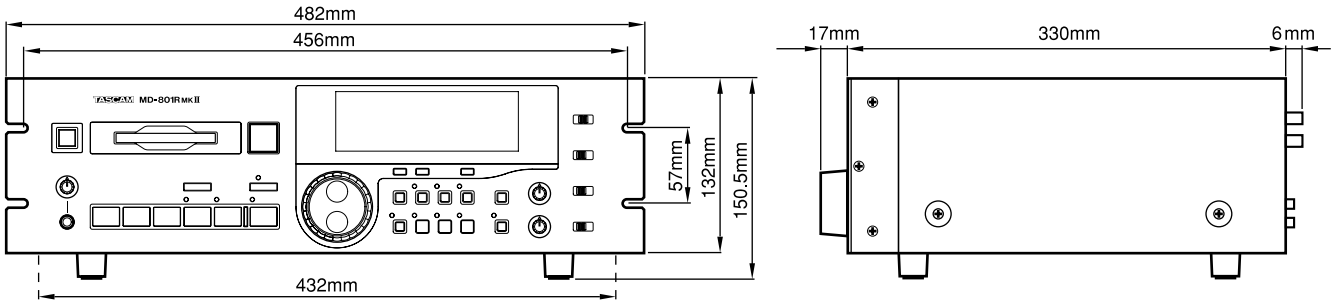
8.2.4 Other connections

WORD SYNC IN	BNC connector, impedance 75 Ω, sampling frequency 44.1 kHz, ±6%
WORD SYNC THRU	BNC connector, auto-terminating, duplicates signal received at **WORD SYNC IN**
REMOTE CONTROL	'D'-sub 25-pin, connects to TASCAM optional RC-801 remote control unit or to optional RC-FS10/20 remote controller
REMOTE (PARALLEL)	'D'-sub 37-pin, TTL level, connects to TASCAM RC-8 remote control unit
REMOTE (SERIAL)	'D'-sub 9-pin, RS-232C
KEYBOARD	PS/2-compatible, mini-DIN 6-pin

8.2.5 General and electrical

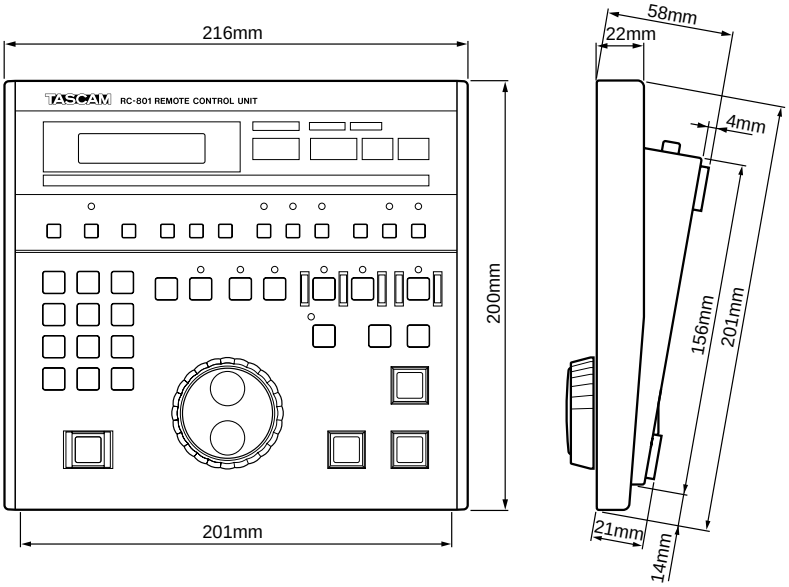
Voltage	USA/Canada 120 VAC @ 60 Hz U.K./Europe 230 VAC @ 50 Hz Australia 240 VAC @ 50 Hz
Power consumption	33 W (MD-801R Mk II) 29 W (MD-801P Mk II)
Dimensions (w x h x d)	482 x 132 x 353 (mm) 19 x 5.2 x 13.9 (in)
Weight	8 kg (17.6 lbs)
Optional accessories	RC-801 full function remote control unit RC-8 simple remote control unit PW-1XMD cable for title copying BU-801 RAM buffer for flash start RC-FS10/20 flash start control unit

8.3 Dimensional drawing

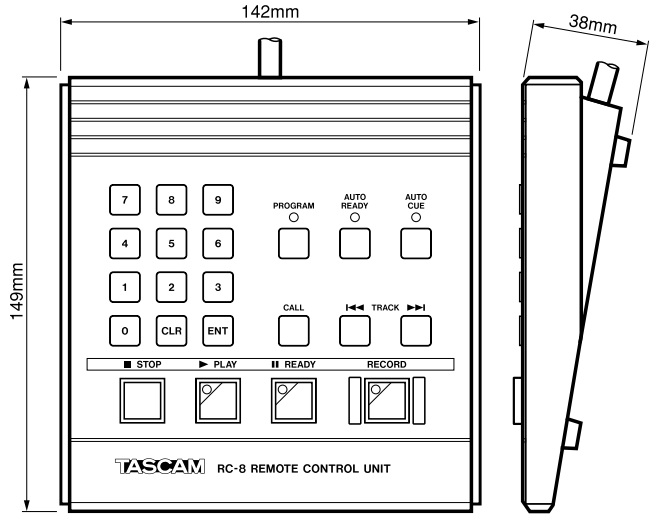


Option

RC-801 Remote Control Unit



RC-8 Remote Control Unit



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